

Harvard Medical Alumni Bulletin

March/April 1975



We know Librium works. (chlordiazepoxide HCl)

Value of continuing animal research

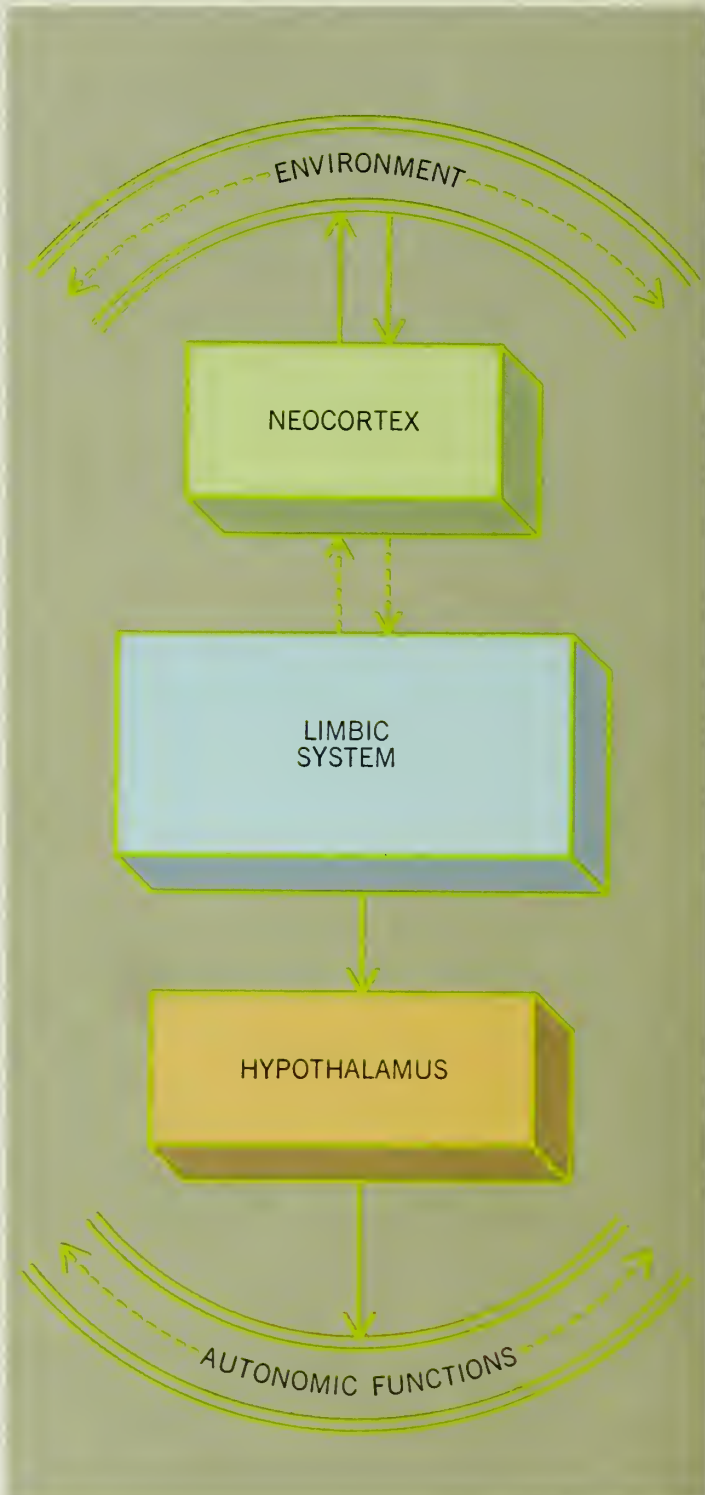
Clinical knowledge of Librium is extensive, yet its pharmacology and therapeutic action remain under continuing study. Data from animal experiments have been presented here for their intrinsic interest and because such findings often provide direction to new research, both experimental and clinical. *However, conclusions from such studies may not always be extrapolated to humans.*

Is the limbic system the "Librium system"? (chlordiazepoxide HCl)

A great deal of experimentation on various animal species suggests that the limbic system is the principal site of action of Librium. Thus, in freely moving cats with electrodes implanted in the brain, Librium 5 mg/kg i.p. slowed electrical activity in the hippocampus, amygdala and septal areas but not in the neocortex which was significantly affected only at higher doses.^{1,2} Current investigations on monkeys,^{3,4} however, indicate that other subcortical structures may be implicated in the effect of Librium. Other investigators, through electrophysiologic studies⁵ in intact, conscious cats and monkeys, have demonstrated that chlordiazepoxide activates structures involved in the rewarding system—the preoptic area, lateral hypothalamus, septal region and hippocampal formation. At the same time, it appears to *inhibit* structures implicated in aversive behavior—the thalamic nuclei of the diencephalon and the midbrain reticular formation (MRF).

References:

1. Schallek W, Kuehn A, Jew N: *Ann NY Acad Sci* 96:303-312, Jan 13, 1962
2. Sternbach LH, Randall LO, Gustafson SR: 1,4-Benzodiazepines (Chlordiazepoxide and Related Compounds), chap. 5, in *Psychopharmacological Agents*, edited by Gordon M. New York, Academic Press, vol. 1, pp. 173-178
3. Delgado JMR, Bracchitta H, Snyder DR: Psychoactive Drugs and Radio-Controlled Behavior. Film presented at the 124th annual meeting of the American Psychiatric Association, Washington DC, May 3-6, 1971
4. Delgado JMR: Antiaggressive effects of chlordiazepoxide, in *The Benzodiazepines*, edited by Garattini S, Mussini E, Randall LO. New York, Raven Press, 1973, pp. 419-432
5. Guerrero-Figueroa R, *et al*: Electrophysiological analysis of the action of four benzodiazepine derivatives on the nervous system, *ibid.*, pp. 489-511



Schema demonstrating hypothetical pathways of emotional activity and its related expression in laboratory animals

We're still learning more about how and why.

Clinical significance of excessive anxiety

Anxiety, when inappropriate and immoderate, may not only have adverse psychologic effects but may also cause various somatic disturbances. Reduction of excessive anxiety thus contributes to relief of anxiety-linked emotional and physical disorders.

Antianxiety action of Librium

The dependable action of Librium has been demonstrated in the relief of excessive anxiety and tension occurring alone or in association with functional and organic disorders—usually without adversely affecting performance. Librium is often used concomitantly, when anxiety is a contributing or complicating factor, with certain specific medications of other classes of drugs, *e.g.*, cardiac glycosides, diuretics and antihypertensives.

Adjunctive use of Librium is recommended when counseling, reassurance or other nonpharmacologic measures alone are not considered sufficiently effective. When anxiety has been reduced to manageable levels, therapy with Librium should be discontinued.



Librium®
(chlordiazepoxide HCl)

5 mg, 10 mg, 25 mg capsules

**We're still learning more about
Librium to make it more useful to you.**

Before prescribing, please consult complete product information, a summary of which follows:

Indications: Relief of anxiety and tension occurring alone or accompanying various disease states.

Contraindications: Patients with known hypersensitivity to the drug.

Warnings: Caution patients about possible combined effects with alcohol and other CNS depressants. As with all CNS-acting drugs, caution patients against hazardous occupations requiring complete mental alertness (*e.g.*, operating machinery, driving). Though physical and psychological dependence have rarely been reported on recommended doses, use caution in administering to addiction-prone individuals or those who might increase dosage; withdrawal symptoms (including convulsions), following discontinuation of the drug and similar to those seen with barbiturates, have been reported. Use of any drug in pregnancy, lactation or in women of childbearing age requires that its potential benefits be weighed against its possible hazards.

Precautions: In the elderly and debilitated, and in children over six, limit to smallest effective dosage (initially 10 mg or less per day) to preclude ataxia or oversedation, increasing gradually as needed and tolerated. Not recommended in children under six. Though generally not recommended, if combination therapy with other psychotropics seems indicated, carefully consider individual pharmacologic effects, particularly in use of potentiating drugs such as MAO inhibitors and phenothiazines. Observe usual precautions in presence of impaired renal or hepatic function. Paradoxical reactions (*e.g.*, excitement, stimulation and acute rage) have been reported in psychiatric

patients and hyperactive aggressive children. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Variable effects on blood coagulation have been reported very rarely in patients receiving the drug and oral anticoagulants; causal relationship has not been established clinically.

Adverse Reactions: Drowsiness, ataxia and confusion may occur, especially in the elderly and debilitated. These are reversible in most instances by proper dosage adjustment, but are also occasionally observed at the lower dosage ranges. In a few instances syncope has been reported. Also encountered are isolated instances of skin eruptions, edema, minor menstrual irregularities, nausea and constipation, extrapyramidal symptoms, increased and decreased libido—all infrequent and generally controlled with dosage reduction; changes in EEG patterns (low-voltage fast activity) may appear during and after treatment; blood dyscrasias (including agranulocytosis), jaundice and hepatic dysfunction have been reported occasionally, making periodic blood counts and liver function tests advisable during protracted therapy.

Supplied: Librium® Capsules containing 5 mg, 10 mg or 25 mg chlordiazepoxide HCl. Libritabs® Tablets containing 5 mg, 10 mg or 25 mg chlordiazepoxide.



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Cover: General Joseph Warren (1741-1775) was a hero of the Battle of Bunker Hill. On the morning of June 17, 1775 he met the Committee of Safety at General Ward's headquarters on Cambridge Common. Hearing that the British had landed at Charlestown, he mounted his horse and rode over to Bunker Hill. While trying to rally the militia to the redoubt on Breed's Hill he was struck by a ball on the head and instantly killed. As a physician, Joseph Warren was a significant figure in Boston medicine. He treated smallpox in the early days, and had as one of his patients John Adams, afterwards president of the United States. Joseph's brother, John, who studied under him was one of the founders of Harvard Medical School and first president of the Massachusetts Medical Society. The portrait is courtesy of the Boston Museum of Fine Arts.

Credits: p. 4 (portrait of Lyman Spalding), 28*, 29*, 30† (Gilbert Stuart's copy belonged to the Waterhouse family and now hangs in the Countway), 31*, 36-39, 40 (portraits of John Collins Warren and James Jackson), 41, 42, 43†, 44†, all provided from the collection of the Boston Medical Library in the Countway; p. 4, Howard Proctor; p. 10-15, Ken Maryanski; p. 16-17, National Museum of Blérancourt, 02, France; p. 19, courtesy of the department of fine arts, Amherst College; p. 22, 24, 25, Boston Medical Library, courtesy of Philip Cash; p. 26, Joseph E. Gadbois; p. 27*, Harvard University; p. 33, 34, courtesy of Dr. Ross A. McFarland (the original of the balloon print is in the Royal Aeronautical Society, London); p. 40, (portrait of George Cheyne Shattuck), Harvard Medical School, and at present in the faculty room of HMS.
*Photographed by David Gunner; †photographed by Edward DiRamio.

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Overview

An Alumnus (HMS 1797) Posing for a 10¢ Stamp?

An alumnus of Harvard Medical School's Class of 1797, Dr. Lyman Spalding, may be honored with a commemorative stamp during the national bicentennial. Rylance Allen Lord, a Springfield, Ohio pharmacist who was a special student at Harvard in 1965-66, is trying to persuade the US Postal Service to issue this stamp.

According to Mr. Lord, the eighteenth-century American doctor deserves this honor for having originated and edited the initial publication of the *United States Pharmacopoeia*, now in its eighteenth revision. The present-day pharmacist also cites Dr. Spalding's vital role in the founding of the Dartmouth

Medical School, in association with Dr. Nathan Smith.

Dr. Spalding is also esteemed for his work with Dr. Benjamin Waterhouse in the use of smallpox inoculation, and his activities as first president of the College of Physicians and Surgeons of the Western District in Fairfield, New York, where he was also professor of anatomy and surgery. One of the earliest "bills of mortality" in this country was published by him.

The University has possessed the greater part of Dr. Spalding's collected papers, correspondence and records since 1965, when they were donated to



Harvard by his great-granddaughter. Their present home is in the Countway.

Anyone wishing to support Mr. Lord's efforts may do so by writing to Dr. George B. Griffenhagen, Associate Executive Director, American Pharmaceutical Association, 2215 Constitution Avenue NW, Washington, D.C. 20037.

Physician, Author Benjamin Miller Remembered in Countway Exhibit

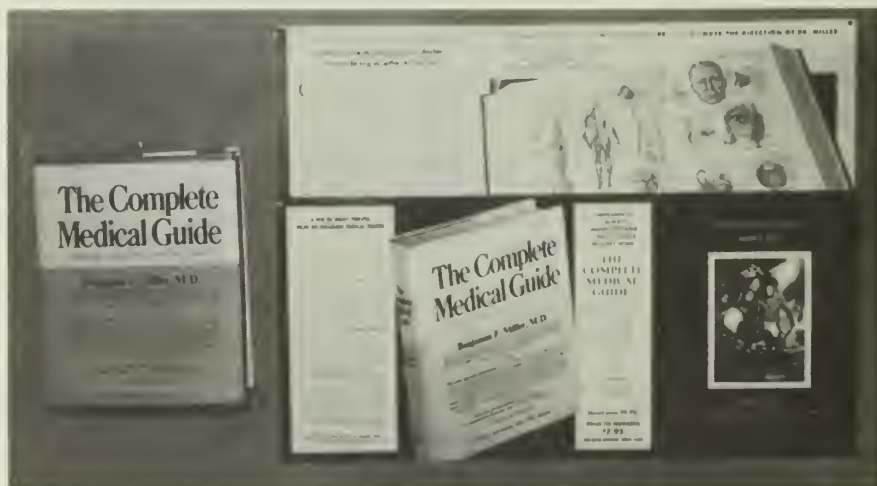
An exhibit of the books, manuscripts, scientific papers and poems of the late Benjamin F. Miller '33 opened at the Francis A. Countway Library of Medicine on December 6, 1974 and will remain through May 1975. Mrs. Benjamin F. Miller of Philadelphia attended the opening of her late husband's works; previously, the exhibit was on view at the Free Library in Philadelphia.

Dr. Miller gained public prominence with the publication of *The Complete Medical Guide* in 1956. Over the years he authored or co-authored more than 125 studies on arteriosclerosis, hypertension, and other medical topics. Some of his other books include: *The Family Book of Preventive Medicine*, *Encyclopedia and Dictionary of*

Medicine and Nursing, and *Freedom from Heart Attacks*. Prior to his death in 1971, Dr. Miller was a senior associate physician at the Peter Bent Brigham Hospital and a lecturer at the Medical School. He was one of three physicians to receive the Francis Amory Prize of the American Academy of Arts and Sciences in 1962.



Dr. Miller



From one of the exhibit cases

New Harvard Medical Alumni Club

The Harvard Medical Club of Northern California is now formally organized, with a constitution and by-laws. To date, about one hundred dues-paying members have joined the club, and discussion groups to inform and encourage other potential members to join are being formed in communities outside the immediate San Francisco area.

Plans are also underway to form an official interviewing committee to help the admissions committee at HMS.

The recently elected officers of the new organization are: James H. Thompson '40, president; Thomas Moore '56, vice-president; Malcolm S. M. Watts '41, secretary; and Paul H. Altrocchi '56, treasurer. On the executive committee are Charles G. Barnett '53, John Mills '66, Benson B. Roe '43A, and Rodman D. Starke '58.

At present, dinner meetings are scheduled to be held in the fall and in February 1976 for the total membership. The club's first dinner took place on 15 January 1975 at the Four Seas Restaurant in San Francisco, with ninety-five people present. J. Engelbert Dunphy '33, president of the Harvard Medical Alumni Association, welcomed the gathering, and the main speaker of the evening was Dean Robert H. Ebert. His speech, "Alumni Power," was very well received and stimulated vigorous discussion afterwards.

BHW Maternal/Fetal Unit Aids Patients

A new maternal/fetal special care unit has opened at the Boston Hospital for Women, for patients whose pregnancies involve a high risk of complication to themselves or damage or death to the fetus.

Women with conditions such as hypertension, diabetes, pre-eclampsia and cardiac problems, or with fetus-endangering difficulties such as intrauterine growth retardation, will receive prolonged, comprehensive inpatient care prior to delivery.

The management of each case will be arrived at by physician consultations among obstetricians, anesthesiologists, and neonatologists, using input from diagnostic procedures including electronic surveillance of fetal heart rate patterns, hormone determinations of the mother's blood and urine, ultrasound to calculate fetal growth rate, and measurement of substances in the amniotic fluid to help predict the ability of the fetus to sustain extra-uterine life.

The special program is expected to result in less duplication of expensive equipment, more effective utilization of specially trained personnel, and more interaction among patients requiring prolonged pre-delivery hospitalization, than when care for each high-risk obstetrical patient was arranged individually by her particular obstetrician.

HMS-MIT Rehab Center Opened at CHMC

"Physicians and engineers will collaborate as equals, and each will have to learn the language of the other to approach the problems and find solutions." This is how Dr. William Berenberg describes the efforts of personnel under his direction to help handicapped children at the new Harvard-MIT Rehabilitation Engineering Center. Its establishment was made possible by a \$335,000 grant to Harvard from the Social and Rehabilitation Service of HEW, in continuation of a grant made to MIT in 1972. This is the fifth center in the US to be created under the federal Vocational Rehabilitation Act.

Children's Hospital Medical Center is the site of the rehabilitation center's clinical facilities. Functioning as a regional diagnostic focus for children with significant handicaps, the center also provides evaluation of both conservative and surgical therapy to correct or help alleviate disabilities. A major emphasis will be the design, fabrication and evaluation of specific bioengineering aids for children for whom routine therapies or apparatus are unsuitable. Also available is equipment for gait analysis, and for diagnosis of musculo-skeletal diseases through electromyography.

The center's director, Dr. Berenberg, is also professor of pediatrics at HMS, senior associate in medicine and president of the medical staff at Children's Hospital. Associated with him in the rehabilitation engineering center are: Melvin J. Glimcher '50, the Harriet M. Peabody Professor of Orthopedic Surgery at HMS and orthopedist-in-chief at Children's; John E. Hall, M.D., professor of orthopedic surgery at HMS and chief of clinical services in the department of orthopedic surgery at Children's; Irving M. London '43A, professor of medicine at Harvard and MIT and director of the Harvard-MIT Program in Health Sciences and Technology; Robert W. Mann, Sc.D., the Uncas A. Whitaker Professor of Biomedical Engineering at MIT and chairman of the steering committee of the Sensory Aids Evaluation and Development Center there; and Laurence R. Young, Sc.D., professor of aeronautics and director of the MIT Man-Vehicle Laboratory.

Union Local Participates in Surgery Consultation

Members of Teamsters Local 25 who have been told they need surgery can now seek a second opinion free of charge from a surgical specialist certified by the American Board of Surgery, at one of five major Boston teaching hospitals.

The new Consultation Program for Elective Surgery has been available to eligible teamsters and their dependents since February 1975, through an arrangement between the local and five hospitals affiliated with Harvard and Tufts medical schools: Beth Israel, Children's Hospital Medical Center, Massachusetts General, New England Medical Center, and Peter Bent Brigham.

The program performs the dual functions of patient service and research. A similar program carried out in New York City, involving members of District 37 of the American Federation of State, County and Municipal Employees recently yielded some disturbing results, although physicians reporting on the study stressed that their findings should be considered preliminary. According to an article by Drs. Eugene G. McCarthy

and Geraldine W. Widmer in the *New England Journal of Medicine*, 19 December 1974, approximately twenty-four per cent of the operations recommended by the patients' original physicians were deemed unnecessary by the participating consultants — including over forty per cent of orthopedic surgery and over thirty-one per cent of gynecologic surgery.

If the consultation program here should yield similar results, it would indicate that considerable savings of money for third-party payers, and of money, time, pain and inconvenience for patients, may be gained from broadened use of such a consultation procedure.

Ebert Named to Panel on Research Funding

Given the current economic situation, it is unlikely that the new President's Advisory Board on Biomedical Research will call for an increase in the \$2.5 billion a year the federal government now spends on medical research. This is the opinion of Dean Robert H. Ebert, who was chosen early this year as the ranking member of the panel.

Initially, the new board will scrutinize HEW funding for medical research, beginning with expenditures of the NIH. The National Cancer Institute will be a subject of particular attention, since it now accounts for about a third of NIH-sponsored research. Later, the panel may be asked to look into medical research conducted by other federal agencies, and also the problems of federal funding for training of research personnel.

The Advisory Board's chairman is Franklin D. Murphy, chairman of the Times-Mirror Company, Los Angeles. Also participating in the panel's fifteen-month study are: Dr. Ewald W. Busse of Duke University School of Medicine; Dr. Albert L. Lehninger of the Johns Hopkins University School of Medicine; Benno Schmidt, New York financial executive and chairman of the President's Cancer Panel; and Dr. David Skinner of the University of Chicago.

The study group was suggested by Caspar Weinberger, Secretary of HEW, to evaluate the federal government's responsibility in medical research funding, and its formation was supported in Congress by many liberals, including Senator Edward Kennedy. The last such survey was conducted in 1965 under the Johnson administration.

Sasahara Heads W. Roxbury VA Hospital



Dr. Sasahara

Dr. Arthur A. Sasahara, a leading world authority on pulmonary embolic disease, is the new chief of the medical service at the West Roxbury Veterans Administration Hospital (WRVAH), a Harvard teaching hospital specializing in cardiology, open heart surgery, and acute spinal cord injury treatment. Concurrently, he has been promoted to professor of medicine in the HMS faculty of medicine.

For the last nineteen years, Dr. Sasahara has been affiliated with HMS, where he is active on the Committee of Professors, the Clinical Council, the Curriculum Committee, and the Internship Advisory Committee. He has been on the staff of the WRVAH for fifteen, and in 1971 became chief of the hospital's cardio-pulmonary section and associate chief of staff for research and education. His predecessor in his new post is Thomas Warthin '34, who retired in June 1974 to become professor of medicine, emeritus.

In 1967 Dr. Sasahara, with his colleagues, produced pioneering studies of the use of two lung clot-dissolving agents, Urokinase, a non-toxic urine enzyme; and a substance extracted from the Malayan pit viper's venom. He edited a supplement to the journal *Circulation* concerning the national cooperative study on the clinical use of Urokinase, and helped produce, as senior editor, the first comprehensive work published in the field of thromboembolism (1965).

Dr. Sasahara's current activities include membership on the Thrombosis Advisory Board of the National Heart and Lung Institute, and on the Council of Thrombosis and the Intersociety Commission for Heart Disease Resources of the American Heart Association. In 1971-73 he served as president of the Greater Boston Chapter, Massachusetts Heart Association. His editorial duties have included service on the editorial boards of *The New England Journal of Medicine*, the *American Journal of Medicine*, *Circulation*, and *VASA*, and he is a reviewer for these and several other noted medical periodicals.

Shore Named to Bullard Chair in Psychiatry

Miles F. Shore '54, who became the new area director and superintendent of the Massachusetts Mental Health Center and professor of psychiatry at HMS in January, has now been appointed Bullard Professor of Psychiatry in the Faculty of Medicine.

The Bullard Chairs, which now number five, are supported by gifts made to the University in 1906 by Louisa Norton Bullard and her children, in honor of the memory of her husband, William Story Bullard, a Boston merchant prominent in East Indian trade; and through a bequest from the late Katherine Bullard in 1959. In addition to Dr. Shore, the incumbents of the Bullard Professorships are: Raymond D. Adams, M.D., in neuropathology; Jack R. Ewalt, M.D., in psychiatry; Sanford L. Palay, M.D., in neuroanatomy; and Richard L. Sidman '53 in neuropathology.

OPPORTUNITIES

Wiscasset, Maine: Health center serving a population of six to eight thousand seeks a full-time family practitioner. Fifteen minutes from two community hospitals. Contact: Drew W. Travers, P.A., Administrator, Wiscasset Health Center, P.O. Box 387, Wiscasset, Maine 04578; (207) 882-7512.

Watertown, Massachusetts: Convalescent home seeks medical director, full or part time. Contact: Norman J. Duffy, Administrator, Emerson Convalescent Home, 59 Coolidge Hill Road, Watertown, Massachusetts 02172; (617) 924-1130.

Brewster, Massachusetts: Combination physician's home and office for rent in mid-Cape Cod on Route 6A. Established medical practice for general practitioner. Write: Box 494, Brewster, Massachusetts 02631.

Albany, New York: Community health center in low income area, offering primary medical services in pediatrics, adult general medicine, and ob-gyn seeks medical director. Background in family practice or community medicine preferred; board eligible or certified. Contact: William J. Williams III, Project Director, South End Community Health Center, 117 Fourth Avenue, Albany, New York 12202; (518) 463-1160.

RENTAL

Barbados: Cottage and gatehouse for rent, directly on the beach. Cottage accommodates six or more; \$200/\$300 per week. Gatehouse is small, rustic, accommodates five; \$150/\$200 per week. Maid, linen, and gardener are provided; facilities of adjacent excellent hotel — including tennis, pool, mile

long beach — are available at no extra charge. Children are welcome. Contact: J. A. Fitzgerald, M.D. ('43A), Professional Building, Watertown, New York 13601.

MISCELLANEOUS

Wanted for childless physician and wife: donor for artificial insemination. Medical student or M.D. preferred. Caucasian, light complexion, Jewish, brown hair and eyes, medium build, 5'10" to 6'2", with at least one normal offspring. Some compensation available. Travel arrangements can be made to suit donor's convenience. Send complete physical description, medical history, and educational background to: Donor, Box 2175, Washington, D.C. 20013.

PROMOTIONS

Professor

Rashi Fein: economics of medicine in the department of preventive and social medicine

W. Hardy Hendren 3d '52: surgery at the Massachusetts General Hospital

Cesare Lombroso: neurology at the Children's Hospital

Ilio Raviola: human anatomy

E. Peirson Richardson '43A: neuropathology at the MGH

Arthur A. Sasahara: medicine at the West Roxbury Veterans Administration Hospital and chief of medical service

Joseph J. Schildkraut '59: psychiatry

Robert G. Spiro: biological chemistry in the department of medicine

Clinical Professor

Ronald J. Gibbons: oral biology and pathophysiology

William H. Harris: orthopedic surgery

James L. Tullis: medicine

Associate Professor with tenure

Raphael Levy: surgery

Anthony P. Monaco '56: surgery

Senior Associate

Harry Winn: surgery

Associate Professor

Hans H. Bode: pediatrics

George P. Canellos: medicine at the Children's Cancer Research Foundation

Charles B. Carpenter '58: medicine at the Peter Bent Brigham Hospital

Robert G. Dluhy '62: medicine at the PBBH

Josef E. Fischer '61: surgery

Bernard G. Forget: pediatrics

Kenneth H. Gabbay: pediatrics

Joel F. Habener: medicine at the MGH

Samuel A. Latt '64: pediatrics

Merle A. Legg: pathology at the New England Deaconess Hospital

Michael Lesch: medicine at the PBBH

Eveline F. Schneeberger: pathology at the CH

Peter H. Schur '58: medicine at the Robert B. Brigham Hospital

David A. Swann: biological chemistry in the department of surgery

Associate Clinical Professor

George M. Pike '36: medicine

Peter M. Yurchak '57: medicine

Assistant Professor

Hassan H. Ali: anaesthesia at the MGH

Richard W. Besdine: medicine at the Beth Israel Hospital

William T. Branch, Jr.: medicine at the PBBH

Leonard Chess: medicine

Michael A. Davis: radiology at the PBBH

Valerie B. Domesick: anatomy

Martin E. Dorf: pathology

Bertil E. Glader: pediatrics

Martin S. Hirsch: medicine at the MGH

Anita P. Hoffer: anatomy

Fareed U. Khaja: medicine at the BIH

J. Thomas Lamont: medicine at the PBBH

Albert R. Martin '63: medicine at the Harvard Community Health Plan

Donald McCaughan: medicine at the WRVAH
 Raymond R. Neutra: preventive and social medicine
 Alfred F. Parisi: medicine at the WRVAH
 John P. Remensnyder '57: surgery at the MGH
 U. Ingrid Richardson: pharmacology in the School of Dental Medicine
 Goran K. Svensson: radiation therapy at the Joint Center for Radiation Therapy
 Roger H. Sweet: preventive and social medicine at the MGH
 Robert B. Szamier: ophthalmology (neuropathology)
 Richard A. P. Thoft '62: ophthalmology at the Massachusetts Eye and Ear Infirmary
 Nicholas L. Tilney: surgery
 Dorothy B. Vilee '55: pediatrics
 Marlin W. Walling: orthodontics at the BIH
 David S. Walton: ophthalmology at the MEEI
 Hugh G. Watts '60: orthopedic surgery at the CH
 William R. Wilson: otolaryngology at the MEEI

Assistant Clinical Professor

John W. Braasch '46: surgery
 Blake Cady: surgery
 Michael A. Goldstein: medicine
 Alfred I. Kaplan: medicine
 Alberto Ramirez: medicine
 John L. Rowbotham '46: surgery
 Theodore I. Steinman: medicine
 Eliot Young: medicine

Principal Research Associate

Juey S. L. Lin: medicine
 Eileen Remold-O'Donnell: biological chemistry
 Micheline M. Roth: medicine
 Richard G. Swensson: radiology

APPOINTMENTS

Professor

Bernard Fields: microbiology and molecular genetics
 Arthur B. Pardee: pharmacology
 Ruth Sager: cellular genetics
 Miles F. Shore '54: psychiatry at the Massachusetts Mental Health Center

Associate Professor

Howard H. Chauncey: oral pathology at the Veterans Administration Outpatient Clinic in Boston
 David C. Levin: radiology at the PBBH
 Mark O.M. Tso: ophthalmology at the MEEI

Assistant Professor

Mathea R. Allansmith: ophthalmology
 Jonathan B. Cohen: pharmacology

Assistant Clinical Professor

Gerson Cohen: prosthetic dentistry

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References: 1. Roth, J. L.: *Ann. N.Y. Acad. Sci.* 150:109, Feb. 26, 1968. 2. Reich, N. E. and Fremont, R. E. (eds.): *Chest Pain*, The Macmillan Company, New York, 1961, p. 348. 3. Hood, J. H.: *Ann. Surg.* 163:359, March 1966. 4. Glenn, M. B.: *Med. Times* 91:379, April 1963.

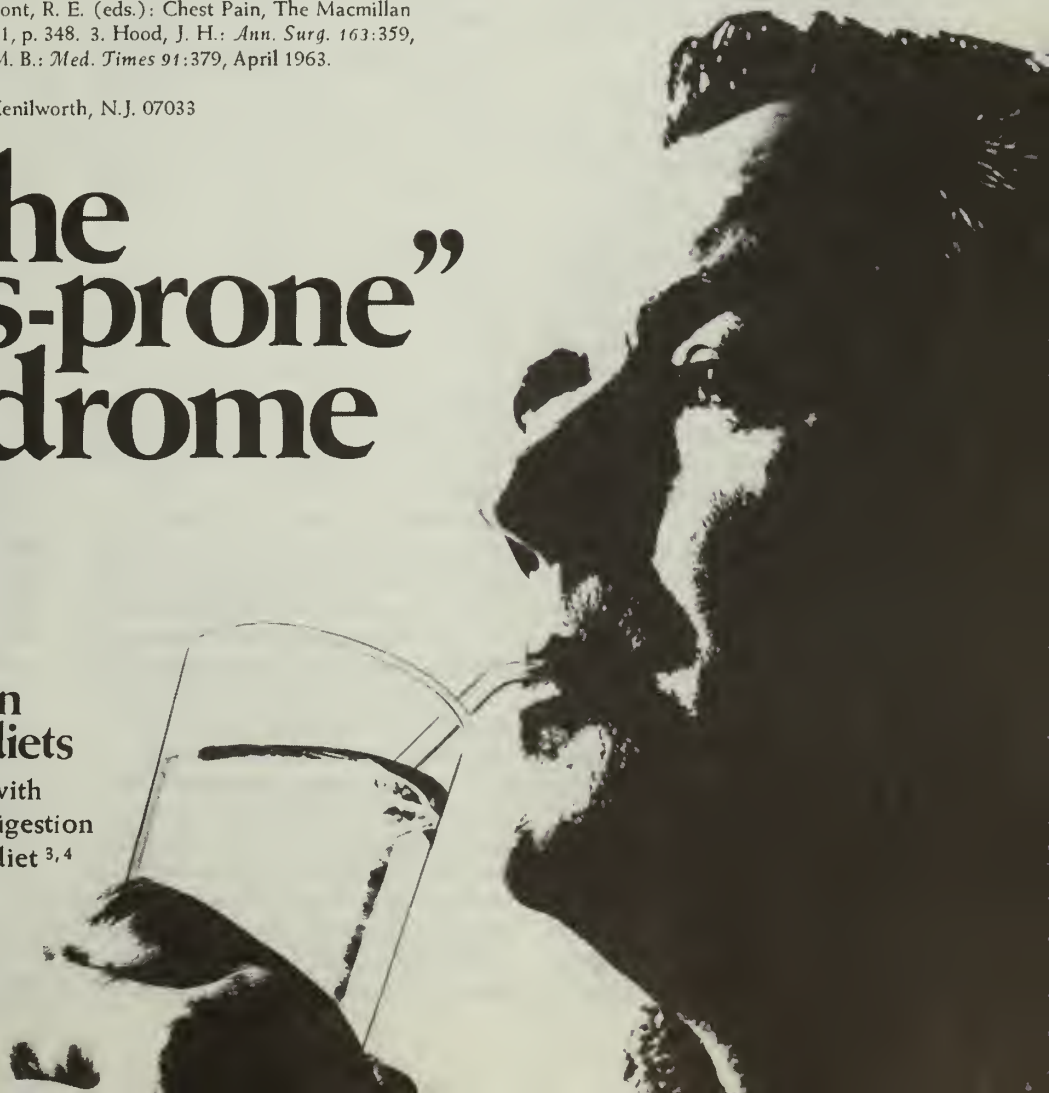


Reed & Carnrick/Kenilworth, N.J. 07033

“the gas-prone syndrome”

**In patients on
special diets**

Cause: air-swallowing with
liquids or impaired digestion
due to restrictive diet^{3,4}



"The historians of science saw the historians of medicine as filiopietistic dilettantes . . . antiquarians who delivered after dinner speeches — meringues laced with misinformation."



Medical History: Curio or Cure?

by George E. Gifford, Jr., M.D.

Guest Editor

The year 1975 marks the bicentennial of the skirmish at Lexington, Massachusetts on April 19th, 1775 and also the centennial of the founding of the Boston Medical Library. The conjunction of these two occasions prompted George Richardson, editor of the *Bulletin*, to conceive of a special commemorative issue. I am honored and pleased that he asked me to be guest editor for this issue.

Being responsible for this collation has given me an opportunity to think about the state, methodology, and purpose of the history of medicine. In considering the history of medicine we find ourselves confronted with the history of science, and the inevitable conflict between them as to the purpose of history itself.

The history of medicine has been written at times of change in the profession; a turning to antecedents in the period of optimism or a turning to humanistic roots with the advent of scientific medicine. For various esteemed physicians, it was related to pride of profession, a statement of their identification with the values and goals of medicine. They unabashedly touted medicine as "noble" and "good," and firmly stated that medicine was developing and evolving. It was positivism. William Osler (1849-1919) summarized the concept: "History is simply the biography of the minds of man, and our interest in history, and its educational value to us, is directly proportional to the completeness of our study of individuals through whom the mind has been manifested."

The great historian of science George A. L. Sarton (1884-1956) saw history of science as a "bridge" between "science" and "humanities" — the chasm that has been celebrated in Sir Charles Snow's seminal *Two Cultures and the Scientific Revolution*.¹ As the young discipline became academically based, however, some of its practitioners became disenchanted with its function as a "bridge." Wrote one:

A favorite expression used to describe the history of science in those days, to be found in many of the essays of George Sarton, was that it was "a bridge" between the sciences and the humanities. Valuable as this slogan was, I think we must admit that as bridge-builders we were failures. Scientists today are not generally concerned with the humanities nor do humanists tend to have any profound appreciation

of the sciences. It is consoling to realize that no other group has been able to build the much-desired bridge between the sciences and the humanities. I mention this topic because the slogan of the 'bridge' still haunts us. Yet I believe we have reached the day when the basic concern of historians of science — and I know I speak here not only for myself but for most of my colleagues — lies in advancing our chosen subject, not in becoming the bridge between the subjects of others!²

The fact is that medicine has always been the "bridge" between the humanists and science, and medicine cannot ignore either tradition. Unfortunately, as both science and medicine became increasingly specialized, so their historians became increasingly contemptuous of each other. Historians of science were based in the intellectual ambience of the universities whereas historians of medicine were based in the pragmatic atmosphere of the medical schools. The historians of science saw the historians of medicine as filiopietistic dilettantes, who wrote anecdotal, parochial nostalgia, often inaccurately and primarily from secondary source materials. As book collectors they wrote on the "first" this or that; antiquarians who delivered after dinner speeches — meringues laced with misinformation. Historians of medicine saw historians of science as academically arrogant (studying Newton excessively may lead to grandiosity), irrelevant scholastics, who basically espoused "scientism," expert at academic opportunism and scientific sycophants, hostile to and jealous of a noble and older profession.

The basic conflict between historians of science and historians of medicine was really about the function of history. Why history at all? In order to understand the basis for this longstanding conflict, we must put our discussion into an historical perspective.

When the first medical school was founded in the United States in 1765, at the College of Philadelphia, John Morgan (1735-1784), the first professor of theory and practice of medicine, gave his famous commencement address, "A Discourse Upon the Institution of Medical Schools in America."³ In it Morgan urged the importance of scientific research and the teaching of science and especially medicine in the

universities; however, he thought that these should be based upon a broad liberal education. His plans for a medical school were based upon the model of Edinburgh where he had been graduated, as were many of the early leaders of American medicine. Morgan certainly envisioned the physician as part of the "community of educated men."

During the nineteenth century American medical education in great part escaped from its academic base in the new nation. It became a pragmatic, solution oriented craft that did make great contributions such as the discovery of ether and innovative surgical techniques. Physicians often were the educated members of the community. Dr. Oliver Wendell Holmes (1819-1894) became the symbol of the physician-humanist of that period. He carried on his duties as Parkman Professor of Anatomy and Physiology at Harvard from 1847 to 1882, with a short stint as dean. He wrote *The Autocrat of the Breakfast Table*, 1858, *Homoeopathy and its Kindred Delusions*, 1842, and *Currents and Counter-Currents in Medical Science*, 1860. Holmes realized the reason for a balance between science and the humanities: "I like nine-tenths of any matter I study, but I do not like to lick the plate. If I did I suppose I should be more a man of science." Neither did Holmes see a conflict between the scientific and humanistic traditions: "There is a dead medical literature and there is a live one — the dead is not all ancient and the live is not all modern." When Holmes retired as first president of the Boston Medical Library in 1889, he presented the Library with one thousand books.⁴

Holmes' gift is typical of the activity in the United States in the last half of the nineteenth century. "It was during this time that America's image of its own medical past became fixed, and in which medical men who were scholars and bibliophiles preserved and reinforced the memory of medicine in all past ages."⁵ Like Holmes, physicians in other cities built up outstanding libraries: S. Weir Mitchell helped to make the Library of the College of Physicians of Philadelphia the most outstanding in the country in those years; John Shaw Billings (1838-1913) developed the library of the Surgeon General's office, which would become the great National

Library of Medicine; Samuel Smith Purple worked at the New York Academy of Medicine and in Boston James Read Chadwick, the gynecologist, developed and guarded the Boston Medical Library as librarian for over twenty-five years.

There was an intimate connection, at the turn of the century, between the development of the great medical libraries and the development of medical history. There were no professional historians in medical history then, but amateurs. The word *amateur* (L. amator = lover) did not have a pejorative sense. These men loved medical history and pursued it as an avocation while carrying on busy careers as physicians, surgeons, or librarians. These historians uncovered the American medical past and transmitted European scholarship to American readers. Fielding H. Garrison, (1870-1935), who had worked with Billings in the Surgeon General's office, was the first American medical historian to produce a major original work on the general history of medicine, *Introduction to the History of Medicine*, 1913.⁶

A surge of interest in the historical aspects of medicine appeared in Europe in the last half of the nineteenth and early twentieth century — particularly in Germany. Hecker, Haeser, Wunderlich, Baas, Puschmann, Pagel, Neuburger, Diepgen, and Sudhoff all produced work of solid scholarship. All were physicians who wrote of a particular disease, a geographic area, medicine in relation to art, therapeutics, or the like. Their work was marked by great encyclopedic knowledge but isolated to a narrow specific niche. There is a common denominator in their effort; it was written at a high tide of optimism in medicine, and at the high tide of "scientific" history. It was the great Sudhoff who conceived of medicine as a "cultural" phenomenon and his history illustrates repeatedly that medicine depends upon the environment in which it exists. Sudhoff's pupil Sigerist was to have a profound influence on the history of medicine in the United States.

When the German scientific tradition was brought back to America at the end of the nineteenth century it was balanced by a strong humanistic aspect. William Osler, W. H. Welch and Howard A. Kelly infused their teaching with

medical history and made major contributions. William Osler (1849-1919) has become the most publicized example of the physician-scholar and bibliophile. His exposure to the classics and humanities led to a style of writing which makes his works among the most readable by any physician. Osler's *The Principles and Practice of Medicine* dominated the field of medical textbooks from the first edition in 1892 until after his death. Among Osler's other publications are *Aequanimitas*, a volume of essays (1904); and *An Alabama Student* (1908). William H. Welch (1850-1934) professor of pathology and dean at the Johns Hopkins Medical School when it opened in 1893, became the first professor of history of medicine at Hopkins in 1926 and was instrumental in bringing Henry E. Sigerist (1891-1957) to Hopkins as his replacement. Howard Kelly (1858-1943) was the author of *Walter Reed and Yellow Fever* (1906) and along with Walter L. Burrage of the Boston Medical Library, *Dictionary of American Medical Biography* (1928).

At Hopkins, Harvey Cushing came under the influence of Osler and it was Cushing who did much to stimulate interest in the history of medicine at both Harvard and Yale. When Cushing left Harvard for Yale he took with him his medical library collection. At Yale, Arnold Klebs, John Fulton, and Cushing pooled their libraries to form the great Yale collection. Reginald Fitz had earlier been lecturer in the history of medicine at Harvard but Cushing's protege, Henry R. Viets, became a neurologist, medical historian, and curator of the Boston Medical Library. When the Boston Medical Library was combined with the Harvard Medical Library to form the Countway Library, Viets was given a Harvard appointment, consultant to the Historical Collections, Countway Library. After Viets' death, it was my great honor to be appointed to his position.

Two men were to change the focus of medical history — from that of the "amateur" to that of the "professional." Their years nearly overlap, both Euro-

peans who brought a deep scholarly tradition to and established admirable new standards of scholarship for their fields. Each established a journal in his specialty. Both put their history into a broad cultural, socio-economic, and intellectual context; these two men were Henry E. Sigerist in the history of medicine and George A. L. Sarton in the history of science.

Sigerist, combining interest in the humanities and medicine, emphasized the social aspects of medicine. A Zurich M.D. of 1917, he became the professor of history of medicine at Leipzig, and in 1932 professor and director of the Johns Hopkins University Institute for the History of Medicine, the first American medico-historical research center. A brilliant teacher, he wrote 454 papers and 27 books, most famous of which are *American Medicine* (1934) and his uncompleted comprehensive *History of Medicine* with sections on primitive, archaic and Greek medicine. He founded the *Bulletin of the History of Medicine* in 1933.



"Studying Newton excessively may lead to grandiosity."

Sarton was instrumental in making his field an independent discipline.⁷ He founded *Isis* in 1912 and edited it for forty years; in 1936 he founded *Osiris*, a second journal that published lengthier papers on history and philosophy of science. He was professor of history of science at Harvard (1940-1957). His best known works are *Introduction to the History of Science* (three volumes, 1927-1947), *Life of Science* (1960), and *Barton on the History of Science* (edited by D. Stimson, 1962). At Hopkins, after Sigerist, R. H. Shryock and O. Temkin produced major works and influenced a new generation of scholars and students.⁸ Shryock's *The Development of Modern Medicine* is still the best single book on the history of modern medicine.

In this time what purpose or function is the history of medicine? Is it simply a medical curio that deserves to be committed to some museum, or is it part of the cure for the present plight of medicine? Much has been written on the utility of medical history,⁹ but gone are the days when one could justify history with fortune-telling properties like T. B. Macaulay, "To know the past is to predict the future." Or the simplistic Santayana, "He who is ignorant of history is condemned to repeat it." A more guarded function of medical history was given by Carlton Chapman in his address, "History, Precedent, and the Record" at the proceedings of the opening for the Oliver Wendell Holmes Endowment of the Boston Medical Library in 1973:

Rightly or wrongly, there is something very reassuring — even beguiling — about precedent, especially when we are trying to solve a very present and pressing problem. It gives us a certain comfort and sense of belonging to know that other human beings, who like ourselves possessed strengths alongside weakness, have in the past attempted to cope with the very same problems — medical, social, legal, that we face. Sometimes the similarity of their solutions — and their feelings as well as one can discern them from their language — amaze us. And if our feeling for and knowledge of the past is profound enough, our predecessors may tell us what not to do as often as they give hints as to effective action in the present. In any case, the most effective policy makers in our own day have been those who possessed a strong sense of the historical sequence of events. And for the development of that

sense, they cannot have relied solely on a collection of current periodicals.

Perhaps the history of medicine, as yet untitled by the social and intellectual historian, can make contributions to those fields. As Fielding Garrison wrote: "The history of medicine is in fact, the history of humanity itself, with its ups and downs, its brave aspirations after truth and finality, its pathetic failures. The subject may be treated variously as a pageant, an array of books, a procession of characters, a succession of theories and exposition of human ineptitudes, or as the very marrow of cultural history."

As medicine moves into the "social era" perhaps it is even more important that we look at social process — both recent and past, and review medicine's ancient alliance with the humanitarian tradition. To some, medical history may imply a fixity, a worship of the past, a maintenance of the status quo, or even resistance to change or escapism. Nothing is further from the truth. As Heraclitus long ago proclaimed, "The only thing constant is change." All of us need to identify with the best or noble in our past. Humanitarianism is relevant, as we face ethical, social and moral issues in medicine.

Some years ago Don Cameron Allen in a little article in the *Johns Hopkins Magazine* entitled "Humanitas" wrote, "The humanities are at their best when they give a man a sense of continuity and of worth, and this is all we should ask of them . . . When we sense the past in ourselves and find among the memories of mankind some flashes of sympathy, of likeness, of recognition, we should have an equal sense of the future and our share in it. This is, perhaps, the major lesson of modern *humanities*, which informs us that no individual existence is without value, that no man need be alone."

With the celebration of American independence and a century of the Boston Medical Library, it is hoped that the readers of this issue will have a "sense of the past in ourselves and an equal sense of the future and our share in it."

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History Is Bunk?

by George S. Richardson '46

Editor



Our guest editor for the bicentennial issue of the HMAB, George E. Gifford, Jr., a graduate of the University of Maryland Medical School, is a psychiatrist and avid historian of medicine, who holds a master's degree in the history of science from Harvard; an associate professor of socio-medical sciences at Boston University and head of BU's section on the history of medicine. He is consultant to the historical collections in the Countway Library, secretary to the Board of Trustees of the Boston Medical Library, and council member of the American Association for the History of Medicine. Dr. Gifford was awarded a Josiah Macy, Jr. Foundation fellowship in the history of medicine and biological sciences in 1969-1970, and in April 1973 chaired a symposium on the history of psychiatry sponsored by the Countway Library and the Boston Psychoanalytical Society on the subject of "Psychoanalysis, Psychotherapy, and the New England Medical Scene: 1894-1944." The author of more than fifty articles on historical subjects, a number of which have been printed in the pages of the *Alumni Bulletin*, Dr. Gifford has also recently completed a book, *Cecil County Maryland, 1608-1850*.

The *Alumni Bulletin* is honored to have his friendship, and to be able to avail itself of his special strengths on this historic occasion. Dr. Gifford raises the curtain on the bicentennial not of Harvard Medical School (b. 1783) but of some of the going-on during the courtship that gave us birth. We are grateful for his enterprise, his diligence, and his scholarship. We will look forward to his aid once again, in the second year of our celebration — in 1976.

The defense by Dr. Gifford of medical history is made necessary by enemies both from within and from without: those to whom history is a mere amenity for social occasions, and those to whom it is simply irrelevant. For the former, medical history is part of the trappings of gentility. Doctors are not professional historians, and the true gentleman, after all, is one who represents the golden mean between the banaisic technician, on the one hand, and the mere dilettante, on the other. The prototype is Dr. Oliver Wendell Holmes, who in true Bostonian fashion spoke of those who, having "the family traditions and the cumulated humanities of at least four or five generations" have "tumbled about a library and feel at home wherever (t)he(y) smell(s) the invigorating fragrance of Russian leather."¹ These are the enemy only to the extent that history, in such hands, and restricted to the confines of an afterdinner speech, avoids boredom only at risk of becoming trivial. But let us not complain — theirs is the loyalty that carves memorials, those "graffitti of the Establishment,"² and builds libraries.

The enemies from without are a different matter. It will not do to call them anti-humanists, since we ourselves have rather lost the notion of what a humanist is. A humanist is not a humanitarian, or a left-wing Unitarian, or a Behavioral Scientist, but, to quote an eminent scholar,³ "one who has a love of things human, one whose regard is centered on the world about him and the best that man has done; one who cares more for art and letters, particularly the art and letters of Greece and Rome, than for the dry light of reason or the mystic's flight into the un-

known; one who distrusts allegory; one who adores critical editions with variants and variorum notes," etc., etc. The humanist presupposes Eternal Verities, perennially to be refreshed by a return to certain classical works which represent, once and for all time, the problem of man. We, however, including those of us who are medical historians, live among the progeny of Justice Oliver Wendell Holmes, Jr., for whom there are no Eternal Verities, but only an empirical testing in the marketplace of ideas. The Justice was not an anti-historian, but might be accused of being an anti-humanist. In his words, "Age increases my conviction that one cannot afford to give much time to the classics . . . It is the modern books that give us the latest and the most profound conceptions."⁴

We cannot call these enemies of medical history anti-intellectuals, either, for their argument against history, or more accurately, their indifference to it, is, if anything, coldly intellectual. They would react as Julius Caesar does in Shaw's play,⁵ when Theodotus importunes him with the news of the burning of the great library of Alexandria:

T — Caesar: once in ten generations of men, the world gains an immortal book.

C — If it did not flatter mankind, the common executioner would burn it.

T — Without history, death will lay you beside the meanest soldier.

C — Death will do that in any case. I ask no better grave.

T — What is burning there is the memory of mankind.

C — A shameful memory. Let it burn.

Alas, it is true that in reading about the physicians of old one wonders whether to be more shocked at the enormity of their ignorance or the brutality of their treatments!

As chairman of the library committee of a well known hospital, I can testify that the anti-historians have won. As the sundial marks only the sunny hours, so we collect only contemporary Truth. We have many periodicals, but few books, knowing that a scientific book has exhausted one third of its usefulness in a year, and one half in three years.⁶ Our historical collections have left us — for the Countway Library.

And even the Countway, that worthy successor of the great library of Alexandria, shares with other libraries of today certain structural peculiarities which reflect the times and even determine the way in which textbooks are written. To illustrate: an author writing about gallbladder disease for one of the great surgical texts was quite taken with an admirable paper on the subject by our own J. Engelbert Dunphy, and was kind enough to remark to him about it. When the text was published, however, no reference to Dr. Dunphy could be found. The reason? "For periodical volumes more than five years old, the

reader descends one more flight to Lower Two." A more recent publication, or rather re-publication, was cited instead. From this it would appear that an attempt is being made to solve the problems of the information explosion by jettisoning history, or limiting it to a sort of "Bal. Brt. Fwd." How wonderful, if all obsolete ideas would self-destruct — but still better, perhaps, if all repetition were detected and erased by computer!

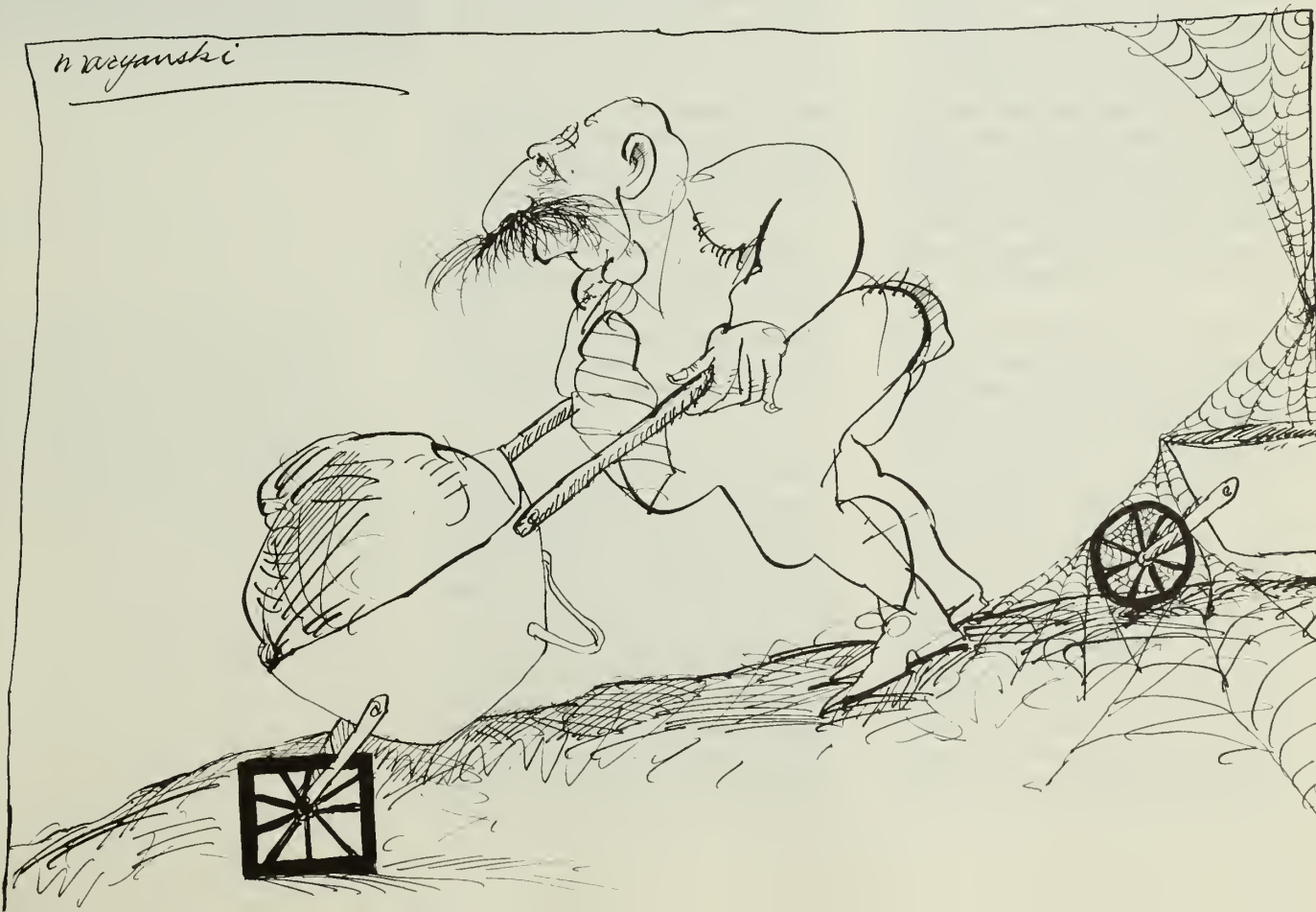
Two days ago, in the office of a surgical colleague, I felt as though this had happened. He glowed over his success in treating fistula in ano with a seton as an office procedure,⁷ and took down a volume of the Surgery of Theodorice (13th century) to show just what he had done!

Well, history is not dead — it has just gone upstairs four flights at the Countway. There, in Holmes Hall, our great names of yesteryear are one with Hippocrates and Paul Dudley White. As the Harvard Commencement Hymn avows, it is the mission of the University, amid change and destruction, to select and preserve what is valuable:

*Fluunt saecula, ruunt moles,
Perit mox humana proles,
Illa autem quae to soles
Laborare permanent.*⁸

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The Health of Revolu

by J. Worth

Hall Jackson, one of four physicians in late eighteenth-century Portsmouth, New Hampshire, described that seaport town of about 5000 people as being "as healthy a place as any in America, or perhaps on the globe."¹ This possibly chauvinistic generalization led me to ask whether Jackson's evaluation was, in fact, correct, and if so, how did he know? In other words, what data were available in the Age of Enlightenment that would have permitted an eighteenth-century American surgeon to make such a statement?

To begin with, Jackson kept a journal,² recently discovered, over an unbroken period of twenty years. In the journal he listed all the births and deaths among his own practice. For many patients he tabulated their sex, race, age at death, and cause of death. Because he also listed the outdoor temperature three times daily for the entire period, as well as other features of the weather, it is likely that he used the journal to test the then current hypothesis that health is affected by meteorological phenomena.

For instance, in 1799 Noah Webster, now remembered more as a doctor of words than of people, demonstrated to his own satisfaction that epidemics were the logical accompaniments of natural disasters such as comets, volcanic eruptions, and extremes of weather. Webster's dogmatism is revealed in his postulate that "the acquiescence of all descriptions of men, learned and unlearned, in the opinion that epidemic diseases are to be ascribed solely to infection or specific contagion, has proven extremely injurious to philosophy and medicine."³

Hall Jackson was well known as both physician and patriot.¹² Born in 1739, he studied medicine at home with his father and his uncle. Like most American physicians of the time, he had no university training, although he did spend the year 1762 in London hospitals. Upon his return he opened an office and an apothecary shop.

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During the Revolution, Jackson was distinguished almost as much for his military as for his surgical skills. An artillery expert, he helped design the defenses of Portsmouth Harbor. When not practicing medicine or marksmanship, he drilled the local militiamen as their elected captain, and went to Cambridge to help treat the militiamen wounded at Lexington and Bunker Hill. He was bitterly disillusioned, however, by losing the opportunity to be Director-General of the Medical Department of the newly formed Continental Army to Benjamin Church, who was found guilty of treason soon afterwards. By late 1775, Jackson had returned to Portsmouth, where he spent the rest of the war caring for troops stationed there.

Newspapers reported Jackson's operations for cataract and his amputations of gangrenous limbs, much as heart transplants have been reported in recent years. He was famous throughout New England for his services at a number of smallpox inoculation hospitals, most of which were public health programs funded by local governments, and for his skill in obstetrics.

Although convinced he would die of his gout, it was a carriage accident that killed Jackson at the age of 58. He was an inquisitive, efficient and knowledgeable physician, in a time and place that required high standards of medical practice.

Jackson's data pertaining to his own patients for the years 1775 through 1794 are entirely consistent with those in the Portsmouth bills of mortality compiled following his death in 1797, over fourteen of the next twenty-three years. These unusually detailed data were collected by two physicians of the town, Lyman Spalding,⁴ later a principal author of the first (1820) *United States Pharmacopoeia*, and Richard Thurston.⁵ Their medical tabulations, when taken in conjunction with concur-



A view of Portsmouth Harbor, 1778

"Jackson delivered the fewest cases reflecting the general social outbreak of the Revolutionary War. 1786 . . . during the height of the war might become a leading factor in the

olutionary America

stes, M.D.



abies in 1776, perhaps
 Malaise that prevailed at the
 . He delivered the most in
 speculation that Portsmouth
 maritime center.”

rent US Census data,⁶⁻⁹ have permitted the computation of certain health statistics for Hall Jackson's Portsmouth. These statistics can then be compared with similar kinds of data for other communities in the United States and Europe.

Bills of mortality generally were not used simply as medical indices of public health; often they were collated for political and philosophical purposes. About a century before Hall Jackson opened his surgical practice, John Graunt and others in London began to realize the scientific as well as social and political uses of mortality data.¹⁰ And in the year after Jackson's death, Thomas Robert Malthus published his pioneering *Essay on the Principles of Population, as It Affects the Further Improvement of Society*, in which he explored the social implications of differences among the healths of populations and their habitats.¹¹

The Spalding-Thurston bills of mortality for Portsmouth are representative both of Hall Jackson's professional experience and of the entire Revolutionary American medical experience. Although Jackson's own non-obstetric data are concerned only with the deaths that occurred among his patients, he would have been called upon to treat much the same spectrum of non-fatal disease as were Spalding and others in the next generation of Portsmouth physicians. No major improvements in methods of cure or prevention of disease occurred between Jackson's death and the last of the Portsmouth bills. Jackson himself was responsible for introducing to America the one demonstrably effective new drug treatment of the era, digitalis, but the prevalence of dropsy was insufficient for the new drug to have altered significantly the life expectancy of an entire community.¹² Jenner's new vaccination technique for smallpox prevention came to Portsmouth four years

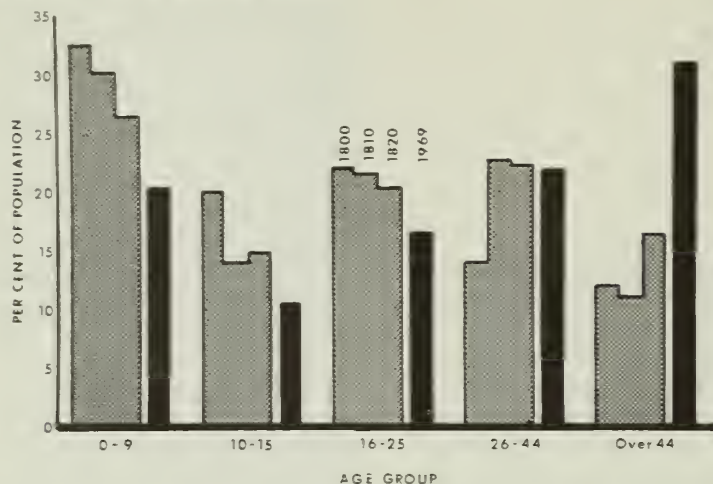
after Jackson's death, but the Spalding-Thurston data show that the efforts of Jackson and his colleagues to eradicate the disease with the older inoculation technique had already reduced to a practical minimum the mortality rate associated with the dread disease.

Although several problems can be found with eighteenth-century vital statistics, I will beg the question of the validity of the raw data. Not only is it likely that "better" data, even if available, would not alter substantially the answers to our questions, we must also view the health of young America through eighteenth-century eyes, rather than with hindsight, to arrive at these answers. Jackson, of course, could have based his estimate of the town's health only on what data were available to him. We can, however, use some of the same data in ways not then available, and corroborate them with contemporary non-quantitative, descriptive observations.

There were others who concurred with Jackson's assessment of the health of Portsmouth. When Timothy Dwight, president of Yale College, travelled north from New Haven in 1795-96, he observed that "New England is the healthiest country in the United States, and probably inferior in this respect to few in the world."¹³ He supported this generalization in his patently chauvinistic account of his travels with data showing that a newborn infant had a fifty per cent chance of living to age five in Europe, and the same chance of living to age seventeen in New England.

Dwight reckoned that Portsmouth boasted 31 streets, 38 lanes, 10 alleys, and 3 public squares. Although he did admit that he enjoyed its inhabitants' company, he found the town's appearance unpleasant and disagreeable. Other travellers, too, found Portsmouth's houses rather dilapidated.^{14,15} Chiefly a commercial and manufacturing town, its 75 cod fishing and whaling vessels contributed less to its economy, when compared to the rest of the state, than the area's inability to support major agricultural efforts might suggest. Since the seventeenth century investigators have shown that economic advancement, with its predictably proportional rise in

Figure 1. The population of 18th century Portsmouth as compared with that of New Hampshire in the 20th century.



the standard of living, is the most important cause of declining mortality rates. The standard of living in the Portsmouth of Hall Jackson and Lyman Spalding appears to have been less than in other American towns of the time.

The population of Portsmouth at the three US Censuses taken over the years during which Spalding and Thurston compiled the bills of mortality is characterized by age groups in Figure 1.

The increase in the proportion of people aged twenty-six to forty-four from 1800 to 1810 suggests that new families were moving to Portsmouth during that time, with the growth of the town's maritime industry.¹⁷

Three kinds of mean annual death rates for the population of Portsmouth from 1801 through 1820 can be calculated from the available data. The death rate per 1000 population was 18.1; there were 14.4 fetal deaths per 1000 live births; and 47.6 deaths per 100 births. Because none of these rates consistently increased or decreased over the twenty year period, as assessed by regression analysis, it is probable that there was little, if any, measurable change in the overall health of the people of Portsmouth during the thirty to forty preceding years, when Hall Jackson was in practice.

Only the birth rate changed consistently during the twenty years for which Spalding and Thurston reported the medical facts of life in Portsmouth; it gradually decreased from 48 to 25 births per

1000 population. This is about the same rate at which the birth rate of the entire United States decreased at the same time, although Portsmouth's birth rates have always been somewhat less than those of the rest of the country. Even that lower birth rate is about twice the current birth rate. The average marriage rate in Portsmouth 150 years ago was 10 per 1000 population, which is about 75% of the current New Hampshire marriage rate. However, it is also about 25% greater than marriage rates in eighteenth-century France and Massachusetts.¹⁸

The fetal death rate per 1000 live births was the same then as it is now,¹⁶ which might be expected if adverse effects on the unborn fetus occurred no more frequently then than now. On the other hand, the newborn death rate was extraordinarily high 150 years ago, because of the prevalence of diseases which we can now recognize as being of infectious origin.

The overall death rate for Portsmouth has declined from 18.1 per 1000 in 1820 to 10.2 today, and the ratio of deaths to births has increased from 48 per 100 to 62 per 100.¹⁶ These changes are consistent with both the present lower birth rate (17.7 per 1000) and the relatively larger population of child-bearing age in the early nineteenth century. The lower ratio of deaths to births 150 years ago would be expected in a rapidly growing new country in which the average family size was 5.8; in Portsmouth it was 6.1. In 1957 the average American family comprised 3.4 persons.⁹

Hall Jackson's own data are compatible with other evidence pertaining to the health of revolutionary Portsmouth, and they appear to provide a valid sampling of the health statistics of the town. His journals give us a rare firsthand glimpse at the vital statistics of the practice of an eighteenth-century physician, although we still lack statistically analyzable data about his non-obstetrical and non-fatal cases, as we do for most physicians of his day.

The average yearly numbers of births and deaths that Jackson recorded are about a fourth of those expected for the entire town of Portsmouth, as would be expected because Jackson was one of four doctors in the town.¹² Even if the 519 births and 247 deaths he listed are not a complete tally, any omissions probably are negligible.

Jackson attended 511 pregnancies during the twenty years for which he kept records. Thus he averaged about 25 deliveries a year, not a staggering caseload by present standards. Of all the pregnancies, about 2% resulted in stillbirths.² Of the 507 live babies that Jackson delivered, 51% were white males, 43% were white females, and about 1% each were black males and females. The remainder were twin births, which occurred in 1.6% of the 499 pregnancies that resulted in live births. This incidence of twin births is about 25% greater than the 1.28% incidence in similar populations in the twentieth century.¹⁹ Although the difference may not be statistically significant, if Jackson did indeed enjoy a special reputation as an obstetrician he would have been sought out for possibly difficult or unusual cases, such as twin births.

He noted that one of the babies he delivered had an easily observable congenital malformation, a girl with an imperforate anus. Although as many as 6 or 7 gross anomalies would be predicted to have occurred among the 507 live births,¹⁹ this apparent underestimate is most likely the result of the less extensive knowledge of heritable anomalies in the eighteenth century.

Jackson delivered the fewest (eleven) babies in 1776, perhaps reflecting the general social malaise that prevailed at the outbreak of the Revolution during the preceding year. He delivered the



Hall Jackson: physician and patriot

most (thirty-nine) in 1786, after the peace with Britain had been well established, and during the height of speculation that Portsmouth might become a leading maritime center.

The average annual number of deaths among Jackson's patients is about twelve. Thus the ratio of births to deaths among his patients is two, approximately the same as that for the whole town of Portsmouth over the subsequent two decades, further evidence that Jackson's tabulation is a random sampling of certain measures of the public health of Portsmouth.

It is not clear why the greatest annual number, thirty, of his patients died in the year 1776. From the diagnoses given, the majority of deaths resulted from pneumonia and other infectious diseases, and may have been connected largely with the outbreak of the Revolution. Other New England towns experienced serious epidemics during the first year or so of the War; and the large number of deaths in that year coincided with the record low number of births.

Figure 2 shows the cumulative probability of death by successive ages in Portsmouth in the period 1801-1820, as well as among Hall Jackson's patients from 1775-1794, and in mid-twentieth-century America. One half of Jackson's patients, for instance, died by age 26, whereas one half of present-day Americans are dead by age 80. The median age of the entire US popula-

tion 150 years ago was 16 years;⁹ today it is 28.¹⁶ The first ten years of life carried a disproportionate risk of death, compared to that of the subsequent years. They still carry a serious risk, although it is smaller now than then. However, if a person survived those first, most dangerous years, the next fifteen years were associated with very little risk.

It is difficult to study the causes of death listed in Hall Jackson's journals or in the Spalding-Thurston bills of mortality in terms of modern concepts of pathology and etiology, most of which were largely unknown in the days before the discovery of bacteria, or even the concept of heart disease. Nevertheless, a number of deductions about the health of colonial and federalist Portsmouth can be made from these data.

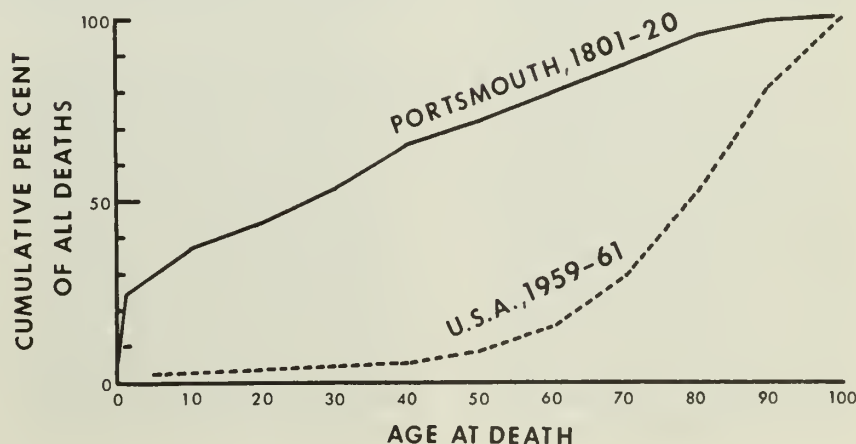
Infectious diseases, especially consumption, or tuberculosis, were the leading causes of death in Portsmouth, and in other cities for which data are available. Timothy Dwight outlined current thinking on the causes of consumption: "The natural causes are the severity and especially the frequent and sudden changes of weather. The artificial ones are intemperance, prevailing to a considerable extent among people in the lowest class, and unhappily not altogether confined to them; a sedentary life continued to such an extent and so much unaccompanied by exercise as to leave the constitution too feeble to resist the attacks of a cold . . . A young lady dressed à la Grecque in a New

England winter violates alike good sense, correct taste, sound morals, and the duty of self-preservation."¹³ Cholera was Portsmouth's second most frequent killer, while typhus and typhoid fevers, which were not then distinguishable, followed in frequency.

The problems of differentiating among the non-infectious diseases, and of differentiating them from infectious diseases, often are insurmountable. Most of the many deaths ascribed to convulsions, for instance, must have been among children with infectious diseases. In any case, eighteenth-century medicine did not understand central nervous system disease in the same ways we do now. Conversely, the astonishingly low incidence of cancer as a cause of death in the Portsmouth bills of mortality undoubtedly is an underestimate. Most cancer deaths were obscured by diagnoses such as atrophy, bedridden, old age and jaundice, diagnoses which reflect only an imperfect understanding of pathology.

Death has been attributed to dropsy, or in the twentieth century, to congestive heart failure, consistently frequently — in about three to five per cent of the population, including that of Portsmouth — for the last four hundred years,^{2,4,5,10,17,21} even with modern improvements in diagnostic techniques, such as the stethoscope (1819) and the electrocardiograph (1910). Many of the cardiovascular diagnoses listed by Spalding and Thurston could have been made only by autopsy; diagnoses

Figure 2. The cumulative probabilities of dying by any specified age.



such as ossification of the aortic valves and patent foramen ovale could have been made only after detailed dissections. Jackson himself wrote a detailed report of his post mortem findings on the heart of a United States senator who had an unusual congenital heart disease, as well as an amazingly knowledgeable interpretation of their clinical implications.²⁵

Comparison of the 1801-20 Portsmouth data with twentieth century data shows some interesting similarities that corroborate both the skills of the earlier physicians and the relatively unchanging prevalence of some causes of death. The marked decline in mortality from infectious diseases in the past 150 years is, of course, the single greatest triumph of modern medicine. On the other hand, the apparent five-fold increase in the death rate from cardiovascular disease, and the twenty-fold increase in deaths from cancer, are to some degree factitious, reflecting largely our own improved knowledge of the disease processes involved.

The prevalence of primary renal disease as a cause of death seems not to have changed much in 150 years, nor has the incidence of congenital malformations (although Jackson did not observe as many as did his colleagues). In fact, congenital anomalies would be expected to occur consistently frequently in the absence of massive changes in the quality of the gene pool of the population. Accidental deaths, too, seem not to have changed in frequency. Drug poisonings still occur at the same rate, if one subtracts from the modern data the figures which include the current predisposition to use drugs for non-medical purposes. Surprisingly, even suicide continues to occur at the same rate; it may be, perhaps, an irreducible minimum.

Ratios of births to deaths also help us understand population dynamics. When births outnumber deaths by two to one, as at Portsmouth, Salem and Philadelphia, it can be inferred not only that the population is being replenished rapidly, but also that a substantial proportion of the population consists of people in the biologically vigorous and economically productive years that usually coincide with the reproductive years. As the ratio approaches one, as at Norwich, Paris and Boston, it ap-

pears that something like zero population growth has been achieved, at least when immigration is not taken into account. Boston's growth rate, unlike those of other important American cities, may have been balanced because the town's growth potential was limited by its location on what was then virtually an island. As the ratio of births to deaths further decreases below one, as was true in eighteenth-century Vienna and Amsterdam, the resulting picture might be thought of as one of at least stagnation if not decline. However, as Malthus pointed out, a high birth rate might be favorable to developing nations like America, but it might be equally unfavorable to older, established nations.¹¹

Life expectancy data provide yet another index of the health of populations. Techniques for computing life expectancy were available even in the eighteenth century, to permit making comparisons among populations in respect to their relative healthiness, as well as for life insurance purposes.

The principal difference between life expectancies in the 18th and 20th centuries is the lesser life expectancy among young children two hundred years ago. This difference, of course, is well known, because of the high prevalence and mortality of infectious diseases then, coupled with complete inability to provide definitive therapy for patients with those diseases. At about the time that Jackson, Spalding and Thurston were collecting their data, Malthus correctly attributed at least a portion of the differences in mortality rates among urban and rural dwellers to the high mortality rates among children, especially the children of the poor, who were found in the greatest numbers in the larger cities.¹¹

The total life expectancy experience data in Figure 3 show that longevity in Portsmouth during the late eighteenth and early nineteenth centuries was about what would have been expected in a community of its size. That is, Portsmouth was about average in terms of health as measured by life expectancies, among the cities and towns in America and Europe for which data are available, but it was the size of Portsmouth's population, and its density, that seem to have been the chief

determinants of its relative life expectancy.

Longevity was enjoyed more by the men of Portsmouth than by the women, unlike the greater life expectancy shared by twentieth century women when compared to that of men. The sex difference in longevity between Portsmouth and other contemporary towns cannot be attributed only to the greater hazard of complications of childbirth to which women were subject to 150 years ago. The bills of mortality show that the incidence of complications such as puerperal fever was very slight then, much less than we now commonly suppose. In fact, only in Portsmouth, of all the eighteenth century communities for which we have data, did the difference between the sexes increase over the last years of life after the peak child-bearing age period. For the other communities, life expectancy curves for men and women begin to converge after the age of about fifty.

Post-Revolutionary American newspapers and magazines delighted in reporting extreme examples of American longevity. The long life was generally equated with the good life, in terms of health, morals, and ease of making a living in the American Eden. Books on how to attain great age were best-sellers in the eighteenth century. Luigi Cornaro's *Probable Way of Attaining a Long and Healthful Life* was reprinted even in Portsmouth, in 1788.²⁷

When Jacques-Pierre Brissot de Warville visited America in 1788, he set about collecting data to support his hypothesis that the quality of life in a republic that had just won its independence from an oppressive government was better than under that oppression. When Brissot looked at the relatively greater life expectancy for Harvard graduates, regardless of where they lived, than for other populations, he rhapsodized that "one can logically induce the causes of longevity: regularity of morals, an enlightened mind, independence of spirit, and freedom from want."¹⁵

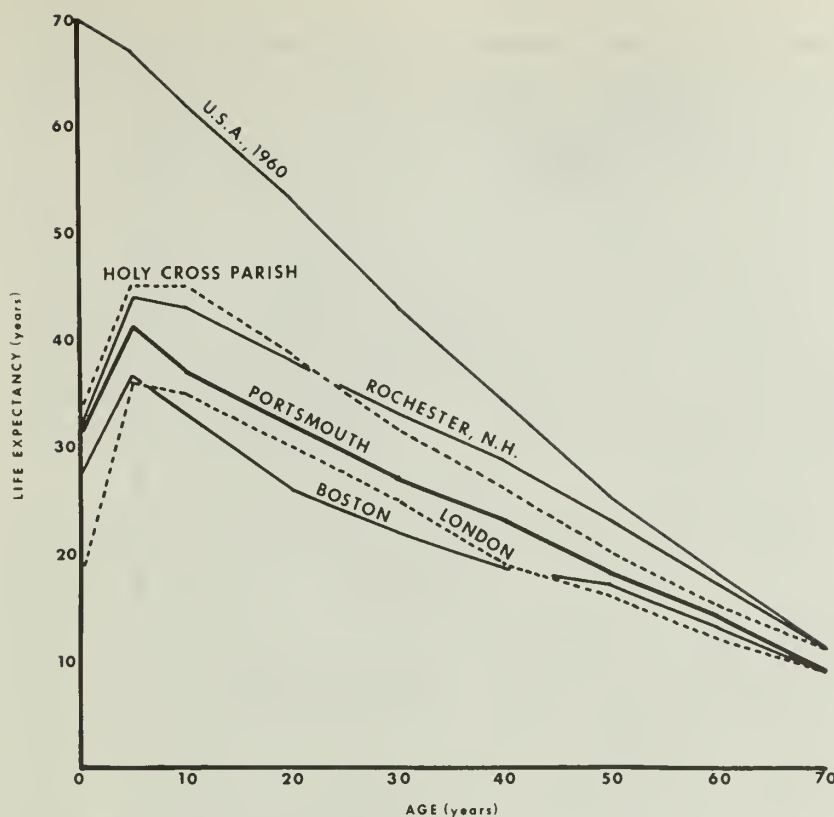


Figure 3. Representative life expectancy curves for Portsmouth and larger and smaller American and European communities in the 18th century, with modern American data. Holy Cross Parish is near Shrewsbury, England.

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Medical Boston in the First Year of the Revolution

by Philip Cash, Ph.D.

In January 1775 Boston was a city of some 16,000 people. It was smaller than Philadelphia (40,000) or New York (25,000), but larger than Charleston (12,000) or Newport (11,000). Surprisingly, this was about the same population it had had in 1742, when it was the largest of the colonial urban centers. The lack of natural resources or an agriculturally rich back country, the emergence of a number of aggressive competitors both large and small, war, frequent fires, and the increasing expense of public services had greatly reduced Boston's rate of growth and stabilized its population.

Throughout much of the eighteenth century Boston had an average annual death rate of about thirty-seven per thousand, more than three times its present one. For that era, however, it was a relatively healthy city and was generally recognized as such. The leading illnesses were cardiovascular problems, childbirth and early childhood afflictions, dysentery, respiratory ailments, smallpox, tuberculosis, and typhoid-typhus (the two were not distinguished until the nineteenth century). Alcoholism, accidents, and drownings also were common hazards.

Unlike Philadelphia or New York, the Boston of 1775 lacked both a general hospital and a medical school, but it did have certain desirable public health features. With its strong sense of identity and community, this, the oldest of the colonial cities, had had a good record of private and public care for its indigent. It was among the first to use quarantine procedures and quarantine hospitals. In addition, it had passed beneficial and generally well enforced regulations involving street paving and cleaning, proper drainage, the control of privies and at least the partial control of occupations deemed to be health hazards, such as chandlers, slaughterhouses and tanneries. In 1721, the city had pioneered in the use of smallpox inoculation. However, the great

danger of starting or intensifying a smallpox epidemic, the ignorance or inexperience of many inoculators, and the heroic methods of inoculation then employed caused this to remain a highly controversial procedure in Boston throughout the entire colonial period. Nonetheless, by the time of the Revolution, the undoubted benefits of the measure as well as the greater skill and milder methods employed by inoculating physicians had led to its general acceptance and widespread use when epidemics threatened. By 1775, a substantial majority of Boston's citizens either had been inoculated or had survived a natural smallpox attack. Unfortunately, this does not seem to have been as true of the British troops or the Tory refugees then in the city.

On the eve of the Revolution, Harvard College provided a substantial minority of Bay Colony physicians with a sound liberal arts background. Indeed, in 1771, a group of Harvard undergraduates, headed by John Warren (A. B. 1771), had gone one step further and founded "the Anatomical Society," also known as the Spunks or Spunkers, which met periodically to discuss medical questions and to dissect animals. It is also possible that they secretly dissected a cadaver or two.

In 1775 Boston was served by a medical community of thirty-odd physicians. Although they were not the equal of Philadelphia's contemporary confraternity (perhaps no American medical community ever has been), their abilities and accomplishments were by no means to be scorned. At the head of this Aesculapian clan stood Dr. James Lloyd (class of 1747), perhaps the most underrated of our early medical leaders. An innovator in American obstetrics and surgery, he had studied in London where he came into fruitful contact with such leaders of British medicine as Chesselton, the Hunter brothers, Sharp, Smellie and Warner. In New England his advanced ideas and practices were given ever widening circulation by the large number of apprentices he trained. Nearly equalling Lloyd in stature and influence in the Boston medical world of 1775 were: Thomas Bulfinch, Jr. (A. B. 1746), grandfather of Boston's greatest architect, a student of William Hunter's and one of only two Massachusetts citizens to receive an M.D. from Edinburgh before the Rev-

olution; Sylvester Gardiner, who had spent eight years in the London and Paris hospitals and who was an excellent surgeon, and also New England's leading apothecary; John Jeffries (A. B. 1763), who had shown outstanding medical acumen even as an apprentice to Lloyd, and who had gone on to study in London and to receive an M.D. from Aberdeen, being the first American to do so; and Joseph Warren (A. B. 1759), a man of exceptional charisma, energy and ability who was not only a major Whig politician, but, following in the footsteps of his mentor, Lloyd, also probably the greatest medical preceptor in Boston during the entire colonial era, and especially noteworthy for his pioneering efforts to give his medical apprentices a more rational and systematic instruction in anatomy, materia medica, physic and surgery than was generally the case.

Other well established and well recognized physicians in the Boston of 1775 included Benjamin Church, Jr. (A. B. 1754), who had studied in London and was one of the most talented surgeons in the colonies; Samuel Danforth (A. B. 1758), who had studied in London, enjoyed one the largest practices in Massachusetts and at different times had held the lucrative offices of physician to the city's quarantine hospital and to its almshouse; Joseph Gardner, a superior inoculist and able medical tutor; Charles Jarvis, a leading surgeon who had studied in London and in 1775 was physician to the quarantine hospital; James Pecker (A. B. 1743), a skilled inoculist and close friend of Gardiner and Lloyd; Isaac Rand, Jr. (A. B. 1761), an outstanding inoculist, classicist and mathematician, and Miles Whitworth, Sr., who had served with distinction as a regimental surgeon during the last two colonial wars and who at different times also had been physician to the quarantine hospital and the almshouse.

As was the case with the rest of the Boston community, the medical profession was rent by the conflicts that culminated in the Revolution. Gardner, Jarvis and Warren became avid Whigs, and Bulfinch, Jr. a more ambivalent one; while Danforth, Gardiner, Jeffries, Lloyd, Pecker, Rand, Jr., and Whitworth, Sr. adhered with varying degrees of intensity to the crown. As usual, the elegant, talented and amoral Benjamin Church, Jr. was *sui generis*.

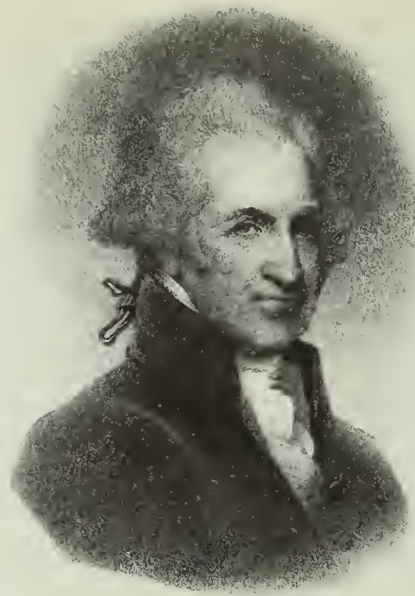
Philip Cash, Ph.D., is a professor of history at Emmanuel College in Boston. In 1973, his book, Medical Men at the Siege of Boston, April 1775 — April 1776, was published as part of the Memoirs Series of the American Philosophical Society. Dr. Cash has used his book as one of the reference works for this article.

On the surface he was an ardent Whig activist, playing a substantial role in the Boston Committee of Correspondence and the Massachusetts Provincial Congress and its Committee of Safety. *Sub rosa*, he was a Tory pamphleteer and a key agent for General Gage. Later he was to serve briefly as the first Director General and Chief Physician of the Continental Army Hospital Department before being unmasked and disgraced. Actually, he did a good job as Director General. However, the discovery of his treason created a vacuum in the leadership of the hospital department at a highly critical time.

Happily and somewhat surprisingly, the painful cleavage of Boston's medical fraternity caused by the Revolution was not permanent. Indeed, when the Massachusetts Medical Society was chartered in 1781, two years before the Peace of Paris, not only were Whigs Gardner and Jarvis among its incorporators, but also Tories Danforth, Lloyd, Pecker and Rand, Jr. Even more surprising is the fact that Danforth (1795-98) and Rand, Jr. (1798-1802) became presidents of the Society and Pecker (1782-85) a vice president.

The rupture that plunged Boston into the maelstrom of war did not appear overnight. Boston had been tormented for nearly two decades by economic, political and social conflict, leading finally to the Intolerable Acts passed by an angry Parliament in the spring of 1774. By the winter of 1774-75 the Acts had strangled Boston's commerce, put its government into disarray and placed it under virtual military rule. Social tranquility was not enhanced by the presence in the city of some 4,000 disgruntled British regulars, plus a small but steadily increasing band of apprehensive and vengeful Tory refugees from the surrounding countryside.

The confusion occasioned by this state of uneasy peace is well illustrated by the rational but paradoxical nature of the city's two most important medical activities during the last months before Lexington and Concord. One was the close cooperation between the Boston Selectmen and Governor Gage in working to prevent a smallpox epidemic. The other was the attempt of the extra-legal Massachusetts Committees of Safety and of Supplies, including Drs. Church and Warren, to secure medical



“James Lloyd, perhaps the most underrated of our medical leaders.”

stores for the colony's troops in the increasingly likely event of a clash with the forces of General Gage.

At long last the Battle of Lexington and Concord made the situation in Boston both much clearer and much more dangerous. By the evening of April 19, the city found itself under siege, or, more accurately, quasi siege, for the hemmed in British still had access to the sea and the Patriot forces for many months were unable to prosecute fully their investment due to a lack of cannon and sufficient powder. During the ensuing eleven months of encirclement the British command, now in full charge of the city, was faced with four major medical problems: securing adequate food and fuel, maintaining hygienic standards, enlarging the army's medical service and combating the various diseases that assaulted the beleaguered city.

The problem of maintaining an adequate food supply for the army and city was compounded by the fact that the Boston garrison's main source of victuals was far off Ireland. Furthermore, the home government did not fully gal-

vanize its efforts to support their hard pressed forces in the Bay Town until fall. Luckily, the number of civilians in Boston dropped from 16,000 in April to 6,500 in early July and during the remainder of the siege another 800 or so Whig sympathizers were allowed to leave while about 1,000 Tories trickled away to England, the Maritimes and elsewhere. However, the number of British rank and file in Boston during the siege rose from about 4,000 to nearly 8,000. Throughout most of the investment, shortages, especially of meat, fresh vegetables and flour were vexing, even debilitating. However, they were never acute enough to disrupt military operations or force an evacuation. As might be expected, these food shortages fell most heavily upon the civilian poor who constituted the bulk of the remaining citizenry after the first few days of the siege. As a result, their health and resistance to disease greatly deteriorated.

Curiously, the British in Boston never lacked for drink. Large amounts of beer, claret, gin, porter and rum always seem to have been available both legally and illegally and heavy drinking and bad liquor were true problems for the army.

As for procuring sufficient fuel for cooking and heating, Boston had always been plagued by this problem. It was heavily dependent upon Maine for its firewood and upon Cape Breton and Newcastle for its coal. During the siege it became even more so, and to supplement the erratic supply from these sources the British soldiery felled trees, tore down houses, dismantled old ships and ripped up fences and wharves. Even churches were not spared: Old North (the Mathers' Old North, not the one in which the lanterns were hung — that was Anglican) was torn down as was the steeple of West Church, while the pews of Old South and several other churches were ripped out. Again, it was the civilian poor who suffered most from the fuel shortage.

Because it was a well established professional military organization, the British army in Boston had only routine hygienic difficulties. Its leaders, especially Howe, strove to keep the army's cooking facilities sanitary, its quarters well ventilated and well scrubbed, its clothing and bedding clean and well aired, its soldiers bathed and their toilet

practices tightly controlled. All of this was in accordance with the recommendations of the highly astute Sir John Pringle who had been Surgeon General to the English Army between 1742 and 1758. A vital factor in maintaining a high standard of hygiene was the army's camp followers, for despite their boot-legging and petty thievery and the threat of venereal disease, these women were a virtually indispensable adjunct to the professional armies of Europe of the day, with the British being no exception. These daughters of Mars rendered such valuable services as cooking, cleaning, mending, nursing and washing. The great amount of time spent by the soldiers of that era in drilling, digging, marching and standing guard left them with little time to perform these tasks, much less the inclination or the skill. Indeed, the absence of women to perform such services for the Patriot forces played a major role in their wholly justified reputation for being dirty, odorous and ragged. In recognition of their services, the British camp followers at Boston who were formally attached to a regiment or artillery company received half rations for themselves and one-fourth rations for their children, as well as living quarters.

While the royal forces in Boston had a number of women to call upon for nursing, they did not have a general hospital until the middle of May, although there were some small regimental ones. Actually, commissions for the creation of a general hospital for the army in Boston had been issued in London in February 1775, but they did not arrive there until early May. In addition to the basic hospital staff both Gage and Howe drew upon the services of the civilian doctors, James Lloyd and John Jeffries who, along with Danforth, Gardiner, Pecker, Rand, Jr. and Whitworth, Sr., remained in Boston through the siege.

After a brief investigation and consultation with Gage, Mallett chose the Manufactory House, a large brick building situated on Tremont Street opposite the present Park Street Church, for the general hospital. Immediately after Bunker Hill, he set up auxiliary general hospitals in the workhouse and the almshouse. These two buildings were located side by side on what is now Park Street and were facing the Common and only a few steps from the Manufactory House. The workhouse



“Joseph Warren, a man of exceptional charisma, energy and ability.”

was a particularly impressive structure, being two stories high and one hundred and twenty-five feet long. All these buildings appear to have been well chosen. They were also conveniently, if disconcertingly, located near both the Old Granary and King's Chapel burial grounds. On June 28, another general hospital for the sick and lightly wounded was set up in Charlestown, even though that town had been destroyed during the Battle of Bunker Hill. Actually, almost all the leading British army doctors of the last half of the eighteenth century, especially the much respected Brocklesby and Pringle, championed the small regimental hospitals over the larger general ones as causing less contagion and allowing for greater personal attention to the patient, as well as giving him the comfort and support of his comrades. However, in large military undertakings such as the defense of Boston, general hospitals, with their greater personnel, more varied services and generally superior doctors, were also needed.

The British command and its hospital services in Boston were challenged not only by the need to care for nearly elev-

en hundred wounded during the siege, but also better than twice that number of sick. The army was attacked by arthritis, diarrhea, dysentery, food poisoning, malnutrition, respiratory diseases, scurvy, smallpox and typhoid-typhus. Melancholia was also a problem throughout much of the siege. In the summer and early fall dysentery and scurvy were the greatest problems. In the late fall and early winter of 1775 it was smallpox and the respiratory disorders. On July 14, nineteen per cent of the English rank and file were sick and wounded, with about half of them being ill. By November 21, the percentage of rank and file that were incapacitated had risen to twenty-three percent, with the vast majority being ill.

By the time of the evacuation in mid-March, the percentage of sick and wounded had fallen to only eight per cent. Many of those who were slightly or even moderately ill must have been pressed back into service to aid in the evacuation. Some diseases had been around long enough to have run their course. The winter weather appears to have had a generally beneficial effect, although the failure of Howe to get many of his troops out of their summer tents and into winter quarters until early December had led to a sharp increase in arthritic complaints and respiratory disorders during that month. In addition, with supplies coming in more regularly, the army had been able to make increased use of such antiscorbutics as sauerkraut, spruce beer and “infusion of Hemlock Spruce.” Also, in late November, Howe, upon the advice of Lloyd and possibly others, decided to risk a program of inoculation for those soldiers who had not had the smallpox. Civilians were also allowed to undergo inoculation if they wished. This was a dangerous gamble, but, in a besieged city where the disease was already highly active, it was probably a wise one. At any rate, it worked. Certainly the army doctors must have been sympathetic to this policy, for it was then the practice to pay them one guinea for every soldier they inoculated. Unlike the army, the civilian population appear to have been sickest during the early summer. In July they were dying at the rate of ten to thirty a day. They suffered from much the same illnesses as the English soldiers, but seem to have been more prone to dietary disorders and less to smallpox.



The Cambridge Anglican Church used as a temporary hospital after Lexington and Concord and later as an American barracks.

One of the most poignant aspects of the siege was the fate of the thirty Patriots taken prisoner at the Battle of Bunker Hill. Gage placed these unfortunates, without distinction as to their rank, in the upper story of Stone Gaol, near the present Court Street. This place was cool, dry, and well ventilated. Indeed it provided better quarters than many of the British regulars enjoyed. In addition, the British commander sent them bread and wood. The Patriots also tried to ease their lot. Ten days after Bunker Hill a committee of the Provincial Congress asked General Thomas to supply the wounded American prisoners in Boston with fresh meat if he could "convey it to them and them only." Later in the summer General Putnam apparently sent some beef and other supplies as well as letters to the prisoners through the hands of Major James Moncrieffe of the British Army, an uncle of General Montgomery and brother-in-law of John Jay. The aging Reverend Andrew Eliot (A. B. 1737) brought them broth while John Scollay, the Selectman, was the most helpful of all, provid-

ing them with beds, bedding, most of their food, and two nurses.

Despite all this, two-thirds of these men were dead by September. The chief reason seems to have been the fact that many of them had been badly wounded when taken prisoner. However, they were also the victims of the malevolence of the bullying William Cunningham, the Provost Marshal, and the avaricious Joshua Loring, Jr., the High Sheriff and husband of General Howe's mistress, Elizabeth. These two had direct control over the prisoners and, enjoying a relatively free hand, treated them with indifference and harshness and may well have profited from their sufferings.

Ironically, it was not these two jackals, but Dr. Miles Whitworth, Sr. who was made the scapegoat of this sorry affair. Apparently upon the suggestion of Lloyd, the British had pressed the contentious Whitworth into treating the American prisoners. After the evacuation he was ordered imprisoned by the

Massachusetts Council and charged with mistreating the American prisoners. Undoubtedly, being a Loyalist and having a son in the British Navy did not help him at this time. He apparently was never brought to trial, but after his release he lost much of his practice and suffered from a fever contracted, ironically enough, while in prison. In 1779 he died, a victim of the war.

One of the most interesting aspects of the siege was the almost constant suspicion expressed by a large number of Patriot military and political leaders, including Washington, that first Gage and then Howe had tried to spread smallpox among their soldiery. It is true that there were smallpox carriers among the refugees that both these generals allowed to leave. However, it is only conjecture that they were planted. It seems more likely that Gage and Howe simply allowed these citizens to leave indiscriminately and let the Patriots worry about any problems they might pose.

On March 17, Howe, prodded by Washington's newly acquired cannon, completed his evacuation of Boston for the cold comforts of Halifax. During the next several months the city struggled to return to normal, or at least as normal as it could be while still at war.

During these post-siege months, two bouts were fought on the Boston medical front, one terminating in a draw; the other, in a considerable victory. The first was the controversy between John Morgan, Director General and Chief Physician of the Continental Army, and the Massachusetts General Court over control of the medicines and equipment left in the apothecary shops of Drs. Gardiner and William Perkins when they sailed away with Howe. Its outcome was a compromise in which the fussy and compulsive, but highly able, Morgan got the larger share, although he was still chagrined not to have got them all. The second arose from the failure of the traditional policy of quarantine to deal with the omnipresence of smallpox within the city. Finally, in July, both the remaining Continentals and the civilian population were allowed to undergo inoculation. Between then and September, 4,988 people were inoculated, including 1,329 nonresidents. Only 28 deaths resulted. This was the most successful mass inoculation in Boston's history.

Countway Portraits: Revolutionary Era Physicians

by Kenyon C. Bolton III

"Isn't this a lovely painting?" "What's it doing here?" One often hears comments like this in the Countway. In addition to its huge holdings of rare and historical literature, the Francis A. Countway Library of Medicine is the repository for quite a few excellent portraits of men who were involved in some way with the founding of Boston's medical institutions.

In the lobby of the Countway Library hangs the full-length portrait of **Nicholas Boylston** (1721-1798) painted by John Singleton Copley in 1772, and commissioned by the Harvard Corporation to commemorate Boylston's legacy providing for a professorship of "Rhetoric and Oratory." The portrait was derived from a smaller three-quarter length version painted earlier by Copley in 1767, which was bequeathed to Harvard by Ward Nicholas Boylston (1749-1828) along with a number of other superb American portraits. Ward Nicholas Boylston is also remembered at the Medical School as the founder of the Boylston Premium Fund for medical dissertation.

Although the full-length format was the most important type of portrait executed during this period, it presented problems of composition, scale, and integration of the figure with the background of

greater consequence than those presented by the quarter or three-quarter length format. Partly because the subject was not available for a different pose and partly because the three-quarter length version of 1767 had been so successful in representing Boylston's physical being and personality, Copley decided to enlarge the original conception rather than devise a new one.

Boston patrons demanded realistic portraits and as both versions show,

Copley's ability was at its height creating convincing form and texture. Boylston is depicted informally in a turban (to cover his shaved head), dressing gown, and slippers. This is a convention Copley used in the portraits of some of his wealthiest subjects. Boylston's role as a prominent merchant is symbolized by the ledgers on which he casually rests; although the painting is replete with other distractions, Copley was able to make his subject's head dominate the canvas.



Nicholas Boylston by John Singleton Copley

Kenyon C. Bolton III is a graduate of Harvard College and the University of Pennsylvania School of Architecture. He is currently at Harvard writing his doctoral thesis on the drawings of Washington Allston. He was the producer of the Fogg Museum's 1972 exhibition, American Art at Harvard, and has published on Washington Allston and American paintings in Harvard collections. This account is based on a talk given by Mr. Bolton at the opening reception for the Oliver Wendell Holmes Endowment Fund, Boston Medical Library, in 1973.



The 1804 portrait of **Cotton Tufts** by Benjamin Greenleaf is one of the most singular works in the Countway. It was done by a provincial limner and stands in contrast to the more polished techniques of other eighteenth century stylists. The portrait of Tufts at seventy-eight is a forceful characterization of one of Massachusetts's earliest organizers of medical institutions.

Cotton Tufts (1732-1815) practiced medicine in Weymouth and was somewhat of an activist and businessman besides. He was chief organizer and for eight years president of the Massachusetts Medical Society, and a charter member of the American Academy of Arts and Sciences. During the Revolution he drafted Weymouth's opposition to the Stamp Act, and later served on the Massachusetts Senate. In addition to all this he found time to act as intermediary for the love letters of John and Abigail Adams, and was affectionately known to them as "Old Trustee" as he managed their business interests.

Benjamin Greenleaf (1786-1864) was born in Haverhill, and was essentially a teacher of high school mathematics and a writer of textbooks. He turned to portrait painting as a means of financing his studies at Dartmouth, from which he graduated in 1813. With one exception his portraits were painted before 1820 and generally on glass. The portrait of Cotton Tufts, painted when Greenleaf was eighteen, is the only known work on canvas.

Greenleaf was an excellent limner, who worked outside the cultural mainstream of his contemporaries Frothingham and Harding. His style is primitive in that the space is shallow, the perspective abrupt, and the figure depicted without shaded modelling. The portrait's outstanding elements are its color (mostly rich brown with contrasts of red and black) and its highly formal composition (an arrangement of the vertical elements of the chair wings and the table leg in opposition to the strong horizontal thrust of the attenuated arm, which is thrown into relief against the table top). Beyond these compositional devices, however, is the credible impression of Tufts' forthright character.

Gilbert Stuart's portrait of **Samuel Danforth** (1740-1827) is perhaps the most impressive picture in the Countway col-

lection. Painted around 1809, it follows the Georgian mode encouraged by Sir Joshua Reynolds, and exemplifies the excellence Stuart occasionally attained in his late period in Boston. The subject was a much admired Cambridge doctor whose family had to flee to Newport during the Revolution because of his loyalist beliefs.

Gilbert Stuart was raised at Newport, but trained in London under the influence of Benjamin West and Sir Joshua Reynolds, and was acknowledged in England as one of the best portrait painters of the British school. In the 1780s he rivalled Romney and Gainsborough, but he was the victim of his own flamboyant character and was forced to move from place to place because of debts accumulated by his extravagant life style. Stuart left London for Dublin, then in 1793 he sailed for America where he ended up in Boston around 1805.

While his formula was based on Reynolds' precepts that portraits should

be "pictures" (decorative in conception, elevated in tone, generalized in detail and timeless in feeling), Stuart's style did undergo some changes in America. He was gifted with the knack of rendering likenesses by building up color and planes in paint without depending on line, although American taste forced him to be more literal. In addition, unlike his British contemporaries, he did not use brown on his palette.

The half-length format used by Stuart in the portrait of Samuel Danforth was exceptional among the artist's Boston portraits for its complexity and format. Its luminescence was achieved with "bravura" brushwork, but there is little to suggest that the subject is a doctor. He merely sits in a curved-back chair, holding a book and letter. Stuart's subject appears troubled neither by doubt nor by failure. The portrait's salient quality is that of "mind and form;" while Danforth looks to be intellectually keen, proud, and perhaps even stubborn, other characteristics are generalized by the nature of Stuart's formula.



Samuel Danforth by Gilbert Stuart

What forces conspired within Stuart to make him raise himself out of periodic bouts with drink and depression to achieve this fine work? Was there something beyond the professional relationship between painter and subject to inspire him? History is unclear, and only offers some suggestions. Danforth, Stuart, and his friend Benjamin Waterhouse all lived in Newport at one time. Later Danforth lived in Cambridge as did Waterhouse, and the two may have been social friends. Danforth maintained a successful practice patronized by some famous patients, one of whom was Paul Revere. Was Stuart another?

Benjamin Waterhouse (1754-1846) is most famous for his introduction of kine-pock vaccination to America in 1800. Today the Countway Library contains the books and memorabilia of this man who was one of the first professors engaged for Harvard's incipient medical school. Waterhouse's friendship with Gilbert Stuart and Washington Allston (two of Boston's most respected painters in the first quarter of the nineteenth century) also distinguished him socially and culturally.

Like Gilbert Stuart, Waterhouse was raised in Newport within the restrained atmosphere of a wealthy Quaker family. At sixteen he was apprenticed to a surgeon, but at the outset of the Revolutionary period in 1775 he was sent to study in London and Edinburgh because his mother was English. In 1780 he graduated from the University of Leyden in the Netherlands, after two years of study. Due to his family's influential position, Waterhouse lived with American Ambassador John Adams while a student.

Following a year of travel in Europe, Waterhouse returned to practice medicine in Newport. In 1782 he was appointed Professor of Natural History at the College of Rhode Island (now Brown University), where he lectured until 1791. Concurrently he had been appointed one of three professors for the new medical school at Harvard College; he was to teach the "Theory and Practice of Physic," and became lecturer in Natural History in 1788.

Waterhouse made his significant contribution to medicine when, in 1800, he inoculated his own children against

smallpox using a vaccine from dairy cattle described in a 1798 London publication by Dr. Edward Jenner (1749-1823). In 1809, problems of personality and the diminished popularity of his courses combined to end the lectures he had given at Harvard for twenty-one years. The Corporation rescinded his professorship in 1812, and

Stuart painted his famous portrait of Benjamin Waterhouse while both were in London as students. Through his connections, Waterhouse was able to get money and commissions for Stuart until the young painter became apprenticed to Benjamin West. The two resumed their friendship after Stuart moved to Boston in 1805.



Benjamin Waterhouse by Gilbert Stuart

thereafter he was appointed "hospital surgeon" by the President of the United States. Most of his energy, however, was spent arguing in the pages of *Junius* (published in 1831) that William Pitt was the author of satirical letters published by *Junius* in England in 1771.

Gilbert Stuart and Benjamin Waterhouse had been boyhood friends in colonial Newport. Stuart went to England several months after Waterhouse, but on his arrival was dismayed to find that the latter had gone to Edinburgh. After Waterhouse returned to London, he gave considerable assistance to Stuart who meanwhile had been barely keeping himself alive as a church organist. Gilbert

The 1831 portrait of Waterhouse at seventy-seven by James Frothingham (1786-1864) is the most important of several pictures of the doctor exhibited in the Countway. Frothingham was a portrait painter who worked in Charlestown, Salem, and Boston before moving to New York in 1826. Primarily self-taught, he is best known for his work done in the style of Gilbert Stuart, who provided help and criticism when Frothingham lived in Boston. Stuart's influence is apparent in the painterly brush work and in the manner Waterhouse is presented — seated in a chair with his hands folded over a book. Frothingham, however, failed to equal Stuart's command of technique or strength of characterization. The con-

temporary recognition of Waterhouse as a pioneer of smallpox vaccination is revealed by the inscription of *Jenner* on the binding of the book.

A quarter-length version of this portrait has recently been given to the Countway, which presents questions of attribution. The reverse side of the painting bears the mark of a New York framer, and the inscription that it is a representation of Waterhouse at seventy-nine. Since it has now been identified as a copy of the Frothingham, does this indicate a sloppy mistake or that it was painted in 1833? The Frothingham portrait was given to Harvard after Waterhouse's death, but loaned back to a Mrs. Ware for her lifetime. Two of Waterhouse's daughters married brothers named Ware so that it is also possible that the copy was made for the daughter who did not receive the original, when the Frothingham was returned to Harvard sometime between 1846 and 1864.

A firm attribution would seem foolhardy now. Before it was recognized as a copy, experts thought Rembrandt

Peale was the artist because of the oval composition and the waxy skin texture, and because Peale was known to have traveled to Boston in search of commissions. Other names, however, including that of Frothingham himself should be considered.

To understand why something was painted is to understand for whom it was painted. Patronage was the dominant factor in determining the nature of Boston's art. The success of an artist in Boston equalled the degree to which his work responded to the implicit demands of the buying public. Thus the temperamental, loyalist, and socially prominent Danforth was painted by Stuart, whose ability to paint heads satisfied the American desire for realistic likenesses, and whose brilliant and decorative paintings suitably embellished the Federal houses of Boston and Cambridge. On the other hand, the hardworking and dependable Tufts, who lived a mostly rural existence, hired a perceptive but inexperienced youth whose success as a painter was not sufficient to prevent him from becoming a mathematics teacher.

Frothingham's move to New York in the same year that Chester Harding triumphantly returned to Boston with a leading European reputation, further emphasizes the vagaries of patronage. The timing of this move must have been more than coincidental, as Harding was immediately successful with a technically refined style resembling more the prejudices of taste that shaped Copley's American pictures and sharpened Stuart's realism. One might have assumed that because he approximated the esteemed Stuart style, Frothingham would have continued to find employment in Boston; instead one finds that he left for a strange city — seemingly displaced by the more sophisticated technique of his rival.

Art in the Revolutionary period in Boston was very much the art of the portrait. The works discussed here are by some of the best known painters of the period, and to this extent reflect artistic currents prevalent in Boston two hundred years ago. The examples run the gamut from the primitive vision of *Cotton Tufts* by the young Benjamin Greenleaf, to the highly polished *Nicholas Boylston* by the hugely successful John Singleton Copley. America's provincial and complex nature towards the end of the eighteenth century is evident from the juxtaposition of a culturally naive portrait with a sophisticated type based on European precedents.

The subjects were prominent physicians, heads of medical institutions, or benefactors of Harvard. Thus the dominant impulse for commissioning these works was to commemorate achievement. Some of these men, such as Waterhouse and Danforth, started life with established social foundations, while others such as Tufts, attained prestige through their own efforts. In either case, their biographies put forth the idea that personality and energy were necessary for excellence regardless of social or financial differences. Taken as a group, these portraits illustrate that with the exception of Waterhouse, the doctors of the Revolutionary period had no greater relationship with painters than did other professionals. They do affirm, however, that the men involved were discriminating and often employed the best painters available to capture their likenesses on canvas.

Benjamin Waterhouse by James Frothingham





John Jeffries in aerial attire

John Jeffries: America's Early Astronaut

by Robert M. Goldwyn '56

Of the many famous travelers who have been physicians, John Jeffries of Boston was one of the most notable and innovative. Through his scientific interest in the atmosphere and his enthusiasm for balloon ascents, he anticipated the space age in a unique way.

Jeffries was born in Boston in 1744 and graduated from Harvard College in 1763. For the next few years, he studied as an apprentice to Dr. James Lloyd, one of the leading medical instructors of his day. Jeffries' later Loyalist tendencies were said to have been due largely to Lloyd. It is interesting, however, that another of Lloyd's pupils was the fervent revolutionist, Joseph Warren. Jeffries was sent to attend the Small Pox Hospital on Castle Island. There, four of his patients, delirious with fever, escaped and plunged into the channel. When they were rescued, Jeffries noted that they were considerably improved and soon completely recovered. He then concluded that the popular mode of treating inflammations by bleeding was wrong.

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Realizing that he was deficient in his knowledge, Jeffries embarked for England and placed himself under the tutelage of several distinguished professors: William Saunders in chemistry and medicine; Joseph Else in anatomy and surgery; Colin MacKenzie in midwifery. He noted that MacKenzie "... described the Manner of Passing the Catheter and Sound in Females and that it may be done under cover ..."

Jeffries obtained his Doctor of Physic from the University of Aberdeen in 1769 and returned to Boston to begin a successful practice. His friend, the British Admiral Montague, Commander in Chief of the Naval Forces in North America, appointed him Assistant Surgeon to his ship then lying in Boston Harbor. When the American Revolution began, Jeffries' sentiments and activities were solidly Loyalist. Shortly before the Battle of Bunker Hill, General Joseph Warren, M.D., made a final attempt to convert Jeffries to the American cause in a midnight meeting at the end of the wharf of the Charlestown ferry. Jeffries' son later wrote:

Dr. Warren came over in a small boat with muffled oars. His object was to induce my father to unite with the Continental Army as a surgeon. This he urged upon him, offering him great inducements to accept. The reply was, "I thought, Warren, that you knew me better. I would not take office under anybody. My motto is 'Aut Caesar aut nullus.' " Warren then said, "Don't be so quick, Jeffries. I have a general's commission in my pocket. We want you to be at the head of the medical service." The offer, however, was declined.²

There is a macabre footnote to the incident. Jeffries, who was at the Battle of Bunker Hill aiding both British and American soldiers, was the first to identify Joseph Warren's body after he was killed.³

When the British garrison left Boston, Jeffries went to Halifax, where he became Surgeon General to the forces in Nova Scotia as well as Purveyor General to the hospitals. His efforts resulted in mass inoculation of the troops against smallpox. Jeffries accompanied the retreating British to England and there passed his medical examinations, given by John Hunter, who told him that his "answers and observations did infinite honor" not only to himself but to his instructors. Jeffries accepted Hunter's invitation to attend his operations and lectures. His notes, still unpublished, reveal Hunter's many interests and his energetic concern for details, in anatomy and in methods of preserving specimens.

Continuing his close associations with the British Navy, Jeffries received a commission to serve again as a surgeon in America — this time in South Carolina and Georgia. He utilized this opportunity to observe "the progress of inflammation and disease" in a hot climate. He returned to England but soon left there for New York City, where he practiced for a short period. Ever restless, Jeffries once more went back to England and rapidly became a well-known surgeon and physician. Never affected in his ways, he resisted the trappings of the "society doctor." Once, an eminent patient, whom he success-



MR. BLANCHARD & DR. JEFFRIES Departing from **DOVER** with the **BALLOON**, for the **CONTINENT** Jan^y 7, 1785.

The Balloon was filled by One O'Clock When the Vessel which ascended with it the five former Voyages was offered. the courageous & Intrepid Voyagers took their seats. The Cars &c. they used in the last voyage were placed in the Boat with Ballast, Letters for the French, Philosophical instruments, a small bottle of Brandy, Biscuits, & the cork jacks which were the whole of their baggage. The greatest silence reigned amongst the spectators until Mr. Blanchard got so far from the Cliff as to be near the Sea. he then stood erect in the Car & saluted the spectators by waving taking of his hat & waving his hand &c. he was then cheered with the loudest Acclamations & wished a good Voyage.

London Sat^y Jan^y 17 1785 by H. G. Humphrey New Bond Street

fully attended, wished to retain him as his private doctor but stipulated that Jeffries must not arrive at his house on foot but in a well-outfitted carriage. This proposal, Jeffries "promptly but courteously declined, observing that he wished to stand upon his own merit and not to rise by the adventitious aids to which some of the profession resorted."⁴

Jeffries is of interest to us not primarily for his medical accomplishments in either the Old or the New World, but for the results of his scientific curiosity. As an amateur meteorologist, he had long been in the habit of recording each day's temperature and wind. Impelled by a curiosity about "the nature and properties of the atmosphere which surrounds us," he recognized that balloon aerial voyages, then coming into vogue, offered a singular opportunity to do scientific research. Observing that most aerialists were concerned only with adventure and distance, but not with scientific data, he decided to organize his own flight. He hired the competent French aeronaut, Jean Pierre Blanchard, who utilized the hot-air balloon,

invented by the Montgolfier brothers a few years before. Blanchard and Jeffries made two voyages: the first in November of 1784 from Grosvenor Square, London, into Stoew in the County of Kent. The more famous trip was on January 7, 1785 from the Cliffs of Dover across the channel into Artois, in France. This was the first successful attempt to cross the sea by an aerial route. Jeffries wished to determine "the power of ascending or descending at pleasure, while suspended and floating in air . . . the effect which oars, or wings, might be made to produce towards this purpose and directing the course of the balloon . . . the state and temperature of the atmosphere at different heights . . . and information on the 'theory of winds.'"⁵ On his channel trip, Jeffries made observations on temperature, pressure, and humidity to a height of 9,309 feet; his values agree closely with modern data. In 1786, Jeffries published a private account of these trips and it is notable for a rare mixture of adventure, science, and inadvertent humor. For example:

. . . We had now approached so near the tops of the trees of the forest (in France)

as to discover that they were very large and rough, and that we were descending with great velocity towards them; . . . fearing that the car might be forced into some of the trees . . . I felt the necessity of casting away something, to alter our course; happily (it almost instantly occurred to me, that probably we might be able to supply it from within ourselves), from the recollection that we had drank much at breakfast, and not having had any evacuation; . . . I instantly proposed my idea to M. Blanchard, and the event fully justified my expectation; . . . we were enabled to obtain, I verily believe, between 5 and 6 pounds of urine; which circumstance, however trivial or ludicrous it may seem, I have reason to believe, was of real utility to us in our then situation; for by casting it away, as we were approaching some trees of the forest higher than the rest, it so altered our course that, instead of being forced hard against, or into them . . ., we passed along near them in such a manner, as enabled me to catch hold of the topmost branches . . . and to descend tranquilly to the surface of the ground . . . near the spot celebrated for the famous interview between Henry the Eighth, King of England, and Francis the First, King of France.⁵

Jeffries later related that Blanchard had made him agree that if it became necessary to lighten the load and all else failed, Jeffries would jump overboard. So dedicated was he to gathering scientific data, he acceded to this harsh stipulation.

Jeffries' accomplishments attracted the attention of Louis XVI and Marie Antoinette and he was invited to join many learned societies throughout Europe. Jeffries now seemed secure in England, with not only his profession but also his scientific interests and growing recognition. However, in 1789, he received several letters from his family and friends in Boston urging him to return to secure property which had been left to him following the death of a near relative. By this time, anti-Loyalist feelings in America had become blunted and Jeffries was able to establish himself once more as a medical practitioner in Boston. He became eminent as a surgeon, midwife, and physician. He is believed to have delivered the first public lecture in anatomy in Boston. "It was, however, but a single one; for on the second evening a mob having collected, entered his anatomical room and carried off in triumph his subject, which was the body of a convict given him by the Governor after execution . . ."⁴

Jeffries had considerable reputation as a consultant. One of his colleagues said that "if he were seen entering a sick man's door, it was very likely to mean nothing more or less than a *nunc dimittis*." Another observed: "He was never known to refuse a professional call, but bestowed his attentions indiscriminately on the poor and the rich. This enabled him to educate a large number of pupils, and gave him what he considered most highly necessary, a good opportunity for practical improvement."⁴



"Aut Caesar aut nullus"

Jeffries kept detailed surgical records in much the same fashion as he continued to record weather conditions three times daily. Conservative in his medical judgment, he would work hard to save a limb rather than reflexively amputate it, a practice which some physicians carried from their war experiences into civilian life.

At age sixty-six he died from a strangulated hernia, which had appeared thirty-four years before, during his exertions on his balloon flight across the Channel. Obituaries in those days were frequently more honest than they are today, especially in divulging personality traits. For example, it was said that Jeffries "to his pupils was a kind, anxious, and attentive, although sometimes an irritable master. Irritability, the usual concomitant of age, was indeed the principal failing of his latter years; but it was so tempered by the amiable qualities of his heart, those who knew him cheerfully submitted to the one, assured of ample recompense from the other."⁶ That pupils had much to learn from him can be inferred from the fact that in 2,000 deliveries, he lost only one patient; a remarkable record for the early nineteenth century.

Jeffries' activities were not confined to his practice. In 1811, he was one of the original twelve physicians to petition the legislature to allow the incorporation of a group, to be called the Massachusetts College of Physicians, which would rival the Massachusetts Medical Society. Implications of this move threatened the struggling new Harvard Medical School because, if the petition were approved, another medical school would certainly result, to the detriment of each. Perhaps because he feared becoming embroiled in public hearings, Jeffries early withdrew his name before the legislature wisely rejected the petition. It remained for one of his fourteen children (by two marriages), John Jeffries, Jr. (1796-1876) to contribute significantly to the growth of Harvard Medical School by co-founding, with Dr. Edwin Reynolds, the Massachusetts Charitable Eye and Ear Infirmary in 1824.

John Jeffries lived during the emergence of our country, the beginnings of present day medicine, and the start of air travel. In each of these historic developments, he was not an oblivious bystander but an imaginative participant.

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Across Two Centuries

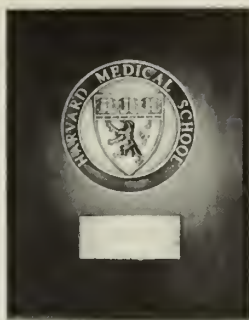
It is interesting to note that the late James Howard Means of Harvard Medical School and the Massachusetts General Hospital was the widower of Marion Jeffries, the great granddaughter of Dr. Jeffries. In 1960, Dr. Means and his son presented to the Smithsonian Institution the barometer and thermometer used by Dr. Jeffries on the Channel flight.

In 1940, the Institute of Aerospace Sciences established the annual John Jeffries Award for Outstanding Contributions to the Advancement of Aeronautics through Medical Research. Since then, four graduates of HMS and three of the School of Public Health have received this award, including Charles A. Berry, MPH '56, Ashton Graybiel '30, and the late W. Randolph Lovelace II '30. In 1956, Professor Ross A. McFarland, the Guggenheim Professor of Aerospace Health and Safety, Emeritus of Harvard, received the award.



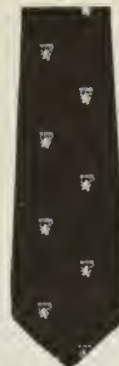
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The Second Social Library

by Richard Warren '34 & Mark D. Altschule '32

"Any seven or more persons in any town or district who have or shall become Proprietors in common of any library (are permitted) to form themselves into a society or body politic for the purpose of holding or using such libraries." Thus decreed the General Court of Massachusetts in 1798. These individuals were to be called the Proprietors of the Social Library in the Town — using the adjective "social" in the sense of the Latin "socii" meaning "partners." July 1805 saw the creation of the Second Social Library of Boston, instituted as the Boston Medical Library.

The Boston Medical Library first kept its books in private homes. Today it is proud to lodge them in the Francis A. Countway Library of Medicine, inter-shelved with those of the Harvard Medical School. Harvard and the Boston Medical Library joined hands in the Countway Library in 1965, in large part because of a gift from Sanda Countway in memory of her brother. The vision and enthusiasm of Dr. George P. Berry, then dean of Harvard Medical School, strongly supported by Dr. Howard Sprague, then president of the BML, contributed the driving force.

The marriage between the two institutions took some arranging. Previous at-

Mark Altschule, M.D., is currently visiting professor of medicine at Harvard Medical School and honorary curator of prints and photographic collections at the Countway Library. He is a new trustee of the Boston Medical Library and has published books and articles on the history of psychiatry and on the physiology of disease

Richard Warren, M.D., is professor of surgery, emeritus and chairman of the Oliver Wendell Holmes Endowment Fund. He is editor of The Archives of Surgery. Dr. Warren is also descended from the Warren family, which has been involved in Boston history and medicine since Revolutionary times.

tempts in this direction had been made, but without success. The first was in 1883, a year following the formation of the Harvard Medical Library. After much deliberation the executive committee of the Boston Medical Library expressed their decided conviction that such a transfer would "be disadvantageous to the best interests of the Associates." But, significantly, the two institutions made arrangements at that time for exchanges of books. The BML received back numbers of journals of which they had been deprived during a fifty-year Babylonian captivity at the Boston Athenaeum from 1826 to 1875, and the Harvard Medical School received copies of duplicate books selected by departmental heads as valuable to their disciplines.

A strong upsurge of enthusiasm to amalgamate arose again in 1913. The trustees again turned thumbs down, but relations evidently progressed, as the episode resulted in an agreement to avoid duplication of acquisitions.

The objectives of a medical library largely differ from those of an arts library. The major interests of the former must be the current collections; the journals; the new compendia, monographs, and books. An arts library, on the other hand, focuses its interests on the relevance to the present of what has happened in the past. Competence in the disciplines served by an art library — literature, art, philosophy, government — depends on knowledge of their development. Even in law, previous decisions form precedents that must be modified or rejected if change is to be effected.

Medical education perforce emphasizes treatment. Students must master the tools and techniques, the drugs, the surgical devices, the diagnostic concepts and apparatus, which crowd upon them in bewildering confusion. And each succeeding generation faces a new or changed array. Since the past must be so regularly discarded



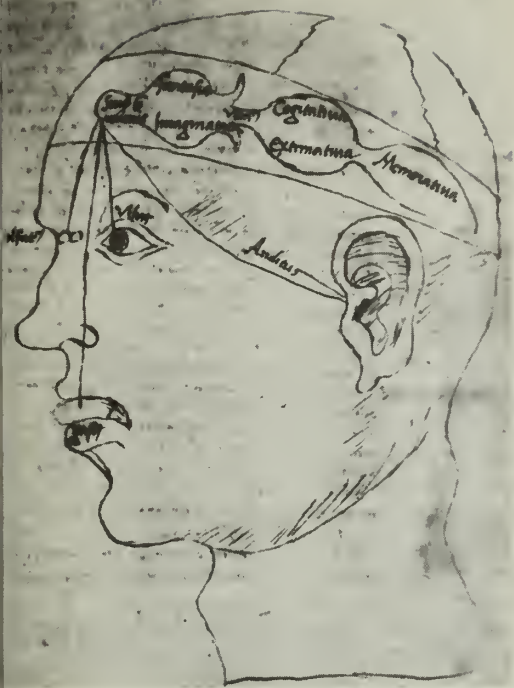
An early diagram of the ventricles of the brain

it is little wonder that students and researchers have few hours in the day for the literature of bygone eras. To ask them to spend most of their time in such studies would be like insisting that modern airline pilots become familiar with the method by which Icarus attached his wings.

What, then, is to be gained from studying the history of medicine through its sources? Why not close the historical collections, or at most, relegate them to the category of rarities to be relished only by connoisseurs of art and history? Why keep them in the Countway at all? Why not give the valuable ones to the Athenaeum or some other rare books library?

Questions of this sort are logical and easy to ask. At first thought rational answers may seem hard to phrase. But when, sooner or later, one comes to a fork in the road where one of two paths must be chosen, the answer comes readily: the treasures of the past are medicine's responsibility to preserve.

We must recognize — as every mature clinician does — that treatment is much more than just prescribing a medication or carrying out a surgical procedure, and similarly, the diagnosis that must precede treatment is more than per-



The techniques of the past are gone, but the wisdom is eternal. Faced with a patient with gangrene of the toe, for example, one may find it helpful to read what the great Percival Pott, who knew nothing about arteriosclerosis obliterans, said in 1775.

It is sufficient for me to know and inform the young practitioner that however loose they may seem, yet if they be violently twisted off, or the parts, by which they hang, be divided, a very considerable degree of pain will most commonly attend such operation, and that I have seen this pain thus produced bring

*“No man can with a good conscience take a fee
or reward before ye partie receive benefit apparent.”*

on a fresh mischief, and that of the gangrenous kind.

If the patient does well these parts will most certainly drop off, if he does not, no good can arise from removing them.¹

If in a reflective mood one interrogates one's conscience to define a philosophic or material attitude towards the doctor-patient relationship, one can do no better than to read the first medical document known to have come to Massachusetts, a letter from Edward Stafford, written 6 May 1643 to his friend, Mr. Winthrop (John Winthrop, the first Governor of the Massachusetts Bay Colony).

Nota bene. No man can with a good conscience take a fee or reward before ye partie receive benefit apparent, and then he is not to demand anything but what God shall putt into the heart of the partie to give him. And he is not to refuse any thing that shall be given to him for it comes from God.

A man is not to neglect that partie to whom he hath once administered, but to visit him at least once a day, and to medle with no more, that he can well attend. In so doing he shall discharge a good conscience before God and Man.²

During the first half of this century, thanks to the arrangement with the Harvard Library, Boston Medical Library scholars did not need to concentrate on comprehensive acquisitions of current periodicals. They therefore spent their energies on collecting valuable first editions of all the landmark publications in medical history, these being added to the personal collections of Boston physicians over 150 years. Books such as Avicenna's *Canon* (Strasbourg, 1473), Vesalius's *Fabrica* (Basel, 1543), of which the BML possesses five copies, Harvey's *de Motu Cordis* (Frankfurt A.M., 1625), Jenner's *An Inquiry into the Causes and Effects of Variolæ Vaccinæ*, are only examples of many works of similar importance.

Because of these treasures, which represent ninety per cent of the Countway's historical collections, the

Boston Medical Library has kept its identity and has not become the weak partner in the marriage, as some had predicted in 1965. The members of the Massachusetts Medical Society and the BML Fellows, of whom there are over seven hundred, continue to support it generously. It still grows as a mecca for scholars of the history of medicine.

Excellence attracts excellence. Because of the knowledge that they will be identified, safely housed, and hopefully made available to more scholars, valuable materials continue to pour in. Examples of some recent acquisitions are old Massachusetts General Hospital records; the original collection of books belonging to the Doctors Treadwell going back to the eighteenth century and presented to the Massachusetts General Hospital in 1857 by the younger Treadwell; and the private records of Dr. Paul D. White.

As acquisitions have burgeoned, government support, so liberally available to the new Countway of ten years ago, has dwindled. Despite the stewardship of one of the most dedicated, energetic rare books librarians in the country, the Boston Medical Library finds itself unable to fulfill its obligations to scholars. The trustees have organized a drive to help find the talented assistance he must have. Doctors in Boston and New England, young and old, as well as graduates of New England's medical schools, wherever dispersed, are welcoming the opportunity to aid the library. 1975 is the hundredth year since James R. Chadwick and Oliver Wendell Holmes brought the modern Boston Medical Library into being. It marks an honored celebration for New England medicine.

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1. Pott, P., *Chirurgical Observations*, London, L. Hawes, R. Clarke and R. Collins, 1775, p. 207.
2. Farlow, John W., *The History of the Boston Medical Library*, privately printed, The Plimpton Press, Norwood, Mass., 1918, p. 85.

The Diminutive Commencement of the Boston Medical Library

by Joseph E. Garland



Second Harvard Hall.

Mr. Joseph E. Garland is a professional writer who has done a good deal of writing on medical topics, including several histories of New England hospitals, among them *Every Man Our Neighbor* — about the Massachusetts General Hospital published in 1961. A graduate of Harvard College, Mr. Garland is the son of the late Dr. Joseph Garland, distinguished editor of *The New England Journal of Medicine* and founding editor of the *Harvard Medical Alumni Bulletin*, which position he returned to again in 1967. Mr. Garland has also authored several laybiographies and histories on the general subject of Gloucester, Massachusetts, where he now resides. His article has been excerpted from the first chapter of his forthcoming book, *The Centennial History of the Boston Medical Library 1875-1975* published by the Boston Medical Library.

"A physician of common sense without erudition is better than a learned one without common sense, but the thorough master of his profession must have learning added to his natural gifts."

— Dr. Oliver Wendell Holmes, at the dedication of the new quarters of the Boston Medical Library on December 3, 1878.

The Autocrat was not unmindful, of course, that his hearers had chosen him the first president of their reincarnated medical library precisely because they considered him the *ne plus ultra* of his third category. "What illuminates a country like its scholarship?" he declaimed pleasantly, "and what is the nest that hatches scholars but a library?"

The first discernible nesting effort aimed at hatching medical scholars appears to have occurred 130 years before Harvard's anatomist and man of

letters cast these dedicatory aphorisms among his colleagues in medicine and learning. At that distant time, erudition was on the whole absent from the armamentarium of the practitioner, while common sense — judging from the known results of clinical intervention — was hardly less so. It did not matter greatly that there was no seat of academic medical education anywhere in the Western Hemisphere.

The year was 1748. By the Treaty of Aix-la-Chapelle George II gained some brief respite from England's enemies in Europe and the colonies which the royal physician, Richard Mead, took advantage of to send across the Atlantic Harvard College's first recorded acquisition of medical literature, his *Mechanical Account of Poisons*, 1702, and his *Medica sacra, sive de morbis insignioribus qui in bibliis memorantur commentarius*, just published. The same year William Vassall donated "Twelve Tables of the Human Bones, finely engraved, framed," by the contemporary German anatomist, Bernhard Siegfried Albinus; a human skeleton was received from Francis Archibald, and William Davis gave the college a collection of wax-filled blood vessels.

The moving spirit behind this ghostly library-cabinet may have been John Winthrop, the second Hollis Professor of Mathematics and Natural Philosophy, and the most inquisitive scientific mind in New England. Winthrop was thirty-three. Two years previously he had set up the first laboratory of experimental physics in the New World. The professor was an energetic and eclectic collector in the natural sciences, just the man to interest himself in skeletons, venae stuffed with wax, and treatises on poison. In 1750 Davis added more anatomical preparations. William James of the island of Jamaica

shipped up a set of “the most approved Medical Authors” and twenty-five pounds in cash in 1752, and in 1758 that interesting merchant of Boston, James Bowdoin, provided a microscope. Also about this time, the college’s skeleton force was doubled.

The nest for what bid fair to be America’s first medical school, however, rose up in smoke on the night of January 24, 1764. The smallpox had invaded Boston, and the General Court of Massachusetts fled across the Charles River to reconvene in Harvard Hall while the students vacationed. A spark, a flame . . . and hall, library and the most approved medical authors, the anatomical tables, the waxy curiosities and the bony couple were in ashes. Lamented the *Boston Post-Boy and Advertiser*: “This Collection would have been very serviceable to a Professor of Physic and Anatomy, when the revenues of the College should have been sufficient to subsist a gentleman in this character.”

By Harvard’s fire the library of the Pennsylvania Hospital, founded in 1760, came into the precedence. In 1765 the College of Philadelphia initiated formal academic medical instruction in the colonies. Harvard had to rest content with organizing the first post-Revolution medical department at the hands of Dr. John Warren in 1782. It was the idea of the new president, Joseph Willard, who had been diverted from medicine into the ministry when he was young and impressionable, which probably accounts for his excitement upon attending a sequel to the anatomical lectures that Continental surgeon Warren had given in the Boston military hospital toward the end of the war.

For the benefit of the medical department, President Willard hoped that the library of Harvard *University* (as it had been called since 1780) would be “enriched with a collection of the approved authors in anatomy, surgery, physick, chemistry, etc . . . a collection more perfect than any in America, as soon as circumstances will permit.” They did not. The small medical faculty, and indeed the “university,” were hard pressed to keep alive after the General Court cut off Harvard’s financial support forever in 1786 in a tiff with Willard over his Federalist politics. And there is no evidence that anything more than an

odd volume ever arose from the ashes of 1764.

Instead, such meager surplus of medical scholarship as could be spared from the private collections of physicians appears to have gravitated to the Massachusetts Medical Society, which the year after its chartering in 1781 resolved to have a library of its own and put Dr. Aaron Dexter in charge of the project. By 1788 the titles on its shelf in his home on Milk Street had crept along to the sum of twenty-six, principally by courtesy of Dr. James Lloyd, who had the distinction of having taken a course in obstetrics at Guy’s Hospital in London. Lloyd’s real mark on posterity, however, is his preceptorship of Dr. Joseph Warren.

Happily for President Willard, the wished-for enrichment of his medical school’s library arrived as another transatlantic transplant while he was still in office to congratulate himself and the university’s benefactor, Ward Nicholas Boylston, né Ward Hallowell.

When Hallowell reached twenty-one in 1770 he had adopted the name of his maternal uncle, Nicholas Boylston, an act of affection which suggests that the eminent Boston merchant already had adopted *him*. Ward traveled Europe, settled in London and secured his fortune. In 1800 he turned homeward, philanthropically inclined and desirous of memorializing his mother’s family. Uncle Nicholas had made a start in 1771 by endowing the professorship in rhetoric and oratory at Harvard which bears his name, fifty years exactly after Ward’s great-uncle Zabdiel Boylston introduced inoculation for smallpox to America.

For his part, upon arriving home in Boston in 1800, Ward Boylston gave the medical school in the inoculator’s name some 1100 volumes of selected authors assembled mainly by Dr. John Nichols of London, and a number of anatomical plates and preparations of John’s father, Francis Nichols, late Professor of Anatomy at Oxford. Further, he provided annuities for additional accessions and for an annual Boylston prize essay in medicine, and presented to the Boylston Medical Library (as it became officially in 1803) — among other family portraits by John Singleton Copley — the luxuriously robed figure

of Uncle Nicholas, shrewd of visage, shorn and capped.¹

Possibly Harvard’s incorporation, seemingly forever, of Boylston’s handsome gift of books within the college library served to push a small group of mostly younger physicians and surgeons, across the river in Boston, to organize the Society for Medical Improvement. Their object was to convene Thursday evenings to present and discuss papers, and to gather a library of their own in the home of Dr. John Fleet in Milk Street (located on the same street as the library already established by the Massachusetts Medical Society in the home of Dr. Aaron Dexter). Their participation in this enterprise was the first known collaboration of those two lifelong friends who would change the course of American medicine, James Jackson and John Collins Warren, son of John Warren. Both of them foresaw that since the patients, as objects of profit and pedagogy, and the practitioners and preceptors, were nearly all in Boston, and since Boston could not easily move to Cambridge, then Harvard’s medical school must one day move to Boston.

James Jackson in 1803 was twenty-six. After his graduation from Harvard College, where he first met Warren, he studied abroad with Sir Astley Cooper at Guy’s and others and returned to Boston to share in introducing Edward Jenner’s vaccination to America almost on the heels of Benjamin Waterhouse, his medical school mentor. John Collins Warren at the founding of the Society for Medical Improvement in 1803 was twenty-five. Like Jackson, he had studied with Cooper in London and had just returned to enter into partnership with his father and assist him with dissections in his course on anatomy and surgery in Cambridge. He would succeed to the Harvard chair on John Warren’s death in 1815, and would be followed in turn after thirty-two years by Holmes, to whom the younger Warren was the greatest surgeon of his day.

Jackson and Warren were joined in their Medical Improvement Society by John Dixwell, twenty-six, bachelor of medicine from Harvard in 1800, and John Clarke Howard, thirty, who also had studied abroad after his apprenticeship to Dr. Samuel Danforth of Boston, *Old Danfurt* . . . Youngest was

George Cheyne Shattuck, first of the medical Shattucks, a mere twenty, fresh out of Dartmouth and four years to go for his Pennsylvania medical degree . . . an impressive lad to gain admittance to such a company.

Besides these were three whose ages climbed up to the fifty-nine years of John Jeffries. Dr. Holmes dimly recalled him. "He came, probably, to administer the professional *coup de grace* to an aged relative of my own, who had been given up by his attending physician, and only awaited the final word of a skilled and ancient expert to authorize his departing in peace."² Seventh was John Homans, fifty or so, like all save Shattuck a Harvard graduate, veteran of the bloody surgery of the Revolution, and like Warren and Shattuck, medical progenitor.

Finally, there was the Improvement Society's librarian, John Fleet, thirty-seven, co-member with George Holmes Hall of the Harvard Medical School's first graduating class in 1788, first assistant appointed, in 1793, to John Warren.

Mindful of the cultural penalties and sacrifices of revolution, the Massachusetts General Court in 1798 had passed an act enabling seven or more citizens to organize proprietary library societies, serially in each town. In 1804 the Boston bar led off with the First Social, or Social Law Library, still functioning today. The doctors then reversed the usual order and followed the lawyers. On July 1, 1805 Warren, Jackson and others in the Medical Improvement Society founded the Second Social, or Boston Medical Library. The

clergy trailed with the Fourth Social, or Theological Library in 1807 — the Third Social, the Scientific, having cut into line between them, probably in 1806 although the exact date is uncertain.³

With slight ceremony the members of the Improvement Society implanted their few books as the seed within the shell of this small oyster. Since their collection was already in the custody of John Fleet, it fell to him to be the first librarian of the Boston Medical Library.

That its founders had something more in mind than the edification of the profession in establishing a medical library in Boston is implied by J. C. Warren's concurrent commencement of a private anatomy course for medical students and physicians in rooms at 49 Marlborough Street (renamed as an extension of Washington Street in 1824), near Franklin Street, over White's apothecary. There is some suggestion here that while the corpus of Harvard's medical department remained faithfully stabled in Cambridge, the proboscis was sniffing under the tent flap across the river. The business end of the animal further insinuated itself in 1807 with the choice of Warren as successor to Fleet and the removal of the Second Social, or Boston Medical Library's growing collection to Amos Smith's apothecary at 39 Marlborough Street, a door or so away from the rump (to use the other anatomical extreme) medical school. The books were now accessible throughout the business day of Mr. Smith, who was appointed sub-librarian.

By 1807, when Warren assumed custody, the books ordered from Europe apparently had made port; the

catalogue listed 145 titles, with 54 more on order . . . In 1808 the first official pharmacopoeia in the United States, compiled by Warren and Jackson, was published by the Massachusetts Medical Society, and the growing library was up to 223 titles. The original one-share, one-book, borrowing regulation had been democratized to three titles at a time for one and all, and the trustees reserved the right to fine Apothecary Smith himself 50 cents a week for the heinous lapse of letting out a book and failing to record the fact. Their statement appended to this catalogue and dated May 30, 1808 is revealing:

The Trustees of the Boston Medical Library have thought it might be agreeable to the Proprietors to receive, at the end of the third year, some general information of the state of the Library, and of such improvements as it is capable of receiving.

The Trustees cannot refrain from congratulating the Proprietors, that this establishment has progressed so rapidly from a diminutive commencement, to its present importance and usefulness. Through its channels, the Physicians of this town are now constantly able to obtain the recent and valuable improvements made by the more advanced science of Europe. The library receives all the periodical publications of Great Britain, which relate to medical subjects . . . Nearly all other English Medical Publications, made since the formation of the library, have also been obtained . . . The most useful new works have been obtained from France . . . Besides these, the Trustees have paid for, and daily hope to receive from France, a most valuable Dictionary of Natural History, containing some hundreds of plates, a voluminous system of French



John Collins Warren, 25



James Jackson, 26



George Cheyne Shattuck, a mere 20

Medical science, a condensed collection of the best French medical writers, and other new works. The medical publications of American Physicians have been procured without any exceptions [not quite true . . . there was not a word by Benjamin Waterhouse, with whom Warren, Jackson and friends were on unfriendly terms]; of these are the New York Medical Repository, the Philadelphia Medical Museum – and Philadelphia Medical and Physical Journal, Rush's Medical Inquiries, Barton's Elements of Botany, &c. All these books are firmly and handsomely bound. The Trustees have lately ventured to add the six published volumes of Shaw's Zoology; a work, which can scarcely be rivalled in the beauty and accuracy of its representations of the various classes of the animal kingdom . . .

Whether this collection, placed in a convenient situation, accessible at all hours, has improved the state of medical knowledge among us, and increased the love of medical reading, the Trustees cannot undertake to say. They can say, that since the library has been opened, nearly seven hundred applications have been made for books, most of which would not have been seen in Boston, probably, had not this library existed. . . .⁴

In midsummer of 1810 it all began to jell. The University approved the petition of the Warren-dominated medical faculty to open lectures in Boston . . . all save that eminent controversialist Benjamin Waterhouse, Hersey Professor of the Theory and Practise of Physic, the sole nonresident of Boston who was quite content to remain in Cambridge and continue lecturing a step or two from his door on Waterhouse Street. A few days later the Corporation came to an agreement with the overseers of the Leverett Street almshouse concerning the use of its clinical facilities for teaching, and at the same time created a new chair in clinical medicine to strengthen the Warrens' Boston cadre, appointing James Jackson its first occupant.

The squeeze was on Waterhouse, always happiest with his back to the wall. He protested with some justification that Jackson's chair was an encroachment on his own, but was overridden and forced by the Corporation to acquiesce formally to the extension of the School to Boston as the condition for his clinical privilege in the almshouse. In December 1810 the six professors on Harvard's medical faculty (there were only eleven in the entire Univer-

sity) opened courses above White's apothecary in the rooms to which John Collins Warren had staked claim five years earlier. While cooperating ostensibly, Waterhouse after two months surfaced leading the unsuccessful effort of a clique of dissident physicians to gain incorporation from the General Court as the rival Massachusetts College of Physicians. Put down once again, the angry vaccinator lashed out libelously at his enemies; for this indiscretion he was discharged in 1812 from the Hersey professorship and suffered the wormwood of seeing it given to the mild James Jackson.

And so Harvard's medical department moved to Boston (all but abandoning its Boylston Medical Library),⁵ and the Boston Medical Library, which by 1810 possessed 329 titles, moved (obedient to the Warren will) from 39 to 49 Marlborough Street to serve the needs of teacher and taught.

The success of their campaign to extend, as they euphemistically put it, Harvard's medical establishment to Boston and the luminescence of the pearl which their creation, the Boston Medical, or Second Social,

49 Marlborough Street where rooms over White's Apothecary Shop (to the left of the China Tea Company) were used by the Boston Medical Library and Harvard's medical department, 1810-1816.





The Massachusetts Medical College – the Mason Street horror

Library had deposited around the catalytic collection of the Society for Medical Improvement, seem to have disposed the Improvers to let their Society quietly dissolve from the scene soon after 1810.⁶ The Massachusetts Medical Society, inversely, flourished, while its library gathered cobwebs and was quite as quietly removed from its cloister in the home of John Fleet after his death in 1813, to reside once again alongside the robustious collection of the Medical Library at 49 Marlborough.

The Medical School thrived in the fine, sickly environment of the growing, teeming, disease-ridden, accident-prone port of Boston, and the makeshift rooms over White's were, of course, ridiculously inadequate. Never ones to let the initiative slip, Warren, Jackson and the rest of the faculty persuaded the President and Fellows to request the General Court to finance a building of its own for the Medical School. In 1815 the legislature voted funds for the construction of a medical school on Mason Street, opposite Boston Common.

"Taken altogether," wrote Boston chronicler Sam Drake of the new edifice of the Massachusetts Medical College (so named in gratitude to the legislators), "its external aspect might be called ugly."⁷ Leaving 49 Marlborough to the pills and philters of the apothecaries, the delighted faculty and students moved into their brick schoolhouse in December 1816.

Provision had been made in the Mason Street horror for a library with a capacity of three thousand volumes, and when

the medical faculty organized for the first time in November 1816 it voted to make a start by donating books which would be useful to the students. Dr. William Gamage, Jr., was appointed the librarian. He was the son of the mighty Cambridge allopathist, the memory of whom caused Dr. Holmes to shudder: "Grim, taciturn, rough in aspect, his visits to the household were the nightmare of the nursery."⁸ The good intentions of the professors must have come to very little, for in 1819 the Boston Medical Library was again on the move, following the School with two thousand volumes, from Marlborough to Mason Street, to take its place beside Dr. Warren's swelling anatomical museum and to exert its gravitational pull on the lesser collections of the Massachusetts and Boylston medical societies.

On May 3, 1826, after serving gratuitously for sixteen years as the Harvard Medical School's chief reference reliance, the Boston Medical Library was dissolved by its thirty-one proprietors, who ceded everything to the Boston Athenaeum in exchange for the privilege — which all but one picked up — of purchasing life subscriptions or proprietorships in that not yet venerable but already exceedingly private institution. James Jackson was no longer a proprietor of the Library, but John C. Warren, John Gorham and Jacob Bigelow were, and these four had been among the founders of the Anthology Society, later Club, gathered in 1804 to advance the literary amenities in Boston, which in 1807 adopted the evocative (and to the world beyond the pale, provocative) name, Athenaeum.

References and Notes

1. The portrait of Nicholas Boylston in the Countway is an embellished copy by Copley of his original.
2. Oliver Wendell Holmes, *Additional Memoranda* to "Medicine in Boston" by Samuel A. Green, in Justin Winsor, *The Memorial History of Boston*, Boston, 1881, IV, p. 563.
3. A second Second Social Library put in a phantom appearance in 1805, to fade from the record after a dozen years, leaving behind only a catalogue of 1808 that reveals its character as a general library and its claim to have been founded in January of 1805 and incorporated in 1806; a second edition carried a supplement listing books added between 1809 and 1811. Charles K. Bolton, librarian of the Athenaeum, concluded that the Boston Medical Library was indeed the Second Social in his study, "Social Libraries in Boston," *Publications of the Colonial Society of Massachusetts*, XII, 1909, p. 332-338.
4. John C. Warren, John G. Coffin, and Asa Bullard were the trustees in 1808. Warren had succeeded Jackson. Dartmouth graduate Bullard and Coffin were two of the four to receive the first degrees of doctor of medicine awarded by Harvard in 1811.
5. Unless the Medical School was in error, the eleven hundred volumes given by Boylston in 1800 had shrunk unaccountably in ten years. Its second circular from Boston in 1811 stated that the Boylston collection "contains about seven hundred volumes selected with great care, relating to all the branches of medical science."
6. The Boston Society for Medical Improvement was vigorously resuscitated by another generation of optimists in 1828.
7. Samuel Adams Drake, *Old Landmarks and Historic Personages of Boston*, Boston, 1872, p. 317.
8. Holmes's *Memoranda*, p. 564.

Greetings from the President of the B.M.L.

by Lloyd E. Hawes '37

As president of the Boston Medical Library at this time of its centennial, it is my privilege and good fortune to be able to inform the readers of the *Harvard Medical Alumni Bulletin* of the truly magnificent and exhaustive collection that forms the rich tapestry of the B.M.L. and is its future legacy.



Oliver Wendell Holmes, confessed Brahmin

We plan a centennial celebration to take place in October at the Countway Library. There will be five rooms displaying many of the precious objects that make the B.M.L. without equal: the famous and very large collection of incunabula, the library of Paul Dudley White '11, the treasures of Oliver Wendell Holmes, from both the B.M.L. and Harvard's Houghton Library, the

Lloyd E. Hawes, M.D., is president of the Boston Medical Library Trustees and honorary curator of the historical collection in radiology. A recent contribution by Dr. Hawes, entitled Benjamin Waterhouse, M.D., First Professor of the Theory and Practice of Physic at Harvard and Introducer of Cowpox Vaccination into America, has been published. Dr. Hawes is also associate clinical professor of radiology at Harvard Medical School.

Altschule collection of prints, and a varied representation of our strength in five fields of specialization.

When the Boston Medical Library came into being, along with an entire slate of officers on that auspicious date August 20, 1875, it was promptly overwhelmed by an inheritance of some magnitude — gifts, books by the thousands, manuscripts by the hundreds, several paintings, and bits and pieces of medical nostalgia. The president was Oliver Wendell Holmes of Beacon Street, confessed Brahmin, beloved poet, eminent author, and Boston's public speaker par excellence, always at the ready.

In the sense that the B.M.L. is held in inestimable regard and is bequeathed works of special importance today, it is cherished by scholars now as much as ever. The B.M.L. has acquired large holdings, both printed and manuscript, over a period of at least 175 years, referencing five centuries in the annals of medicine.

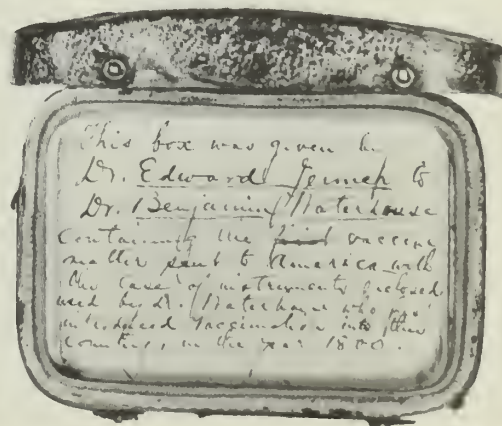
A great number of rare books has been given by doctors during their lifetimes. One such was John Fleet, who presented the B.M.L. with his copy of William Cruikshank's *The Anatomy of*

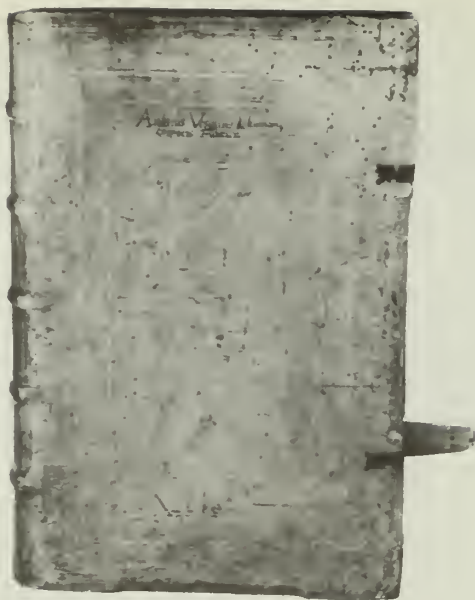
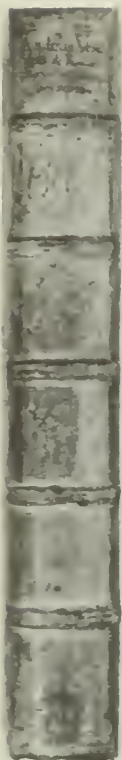
the Absorbing Vessels, the second edition of 1790. Fleet wrote the first catalog of the B.M.L. in 1806, and the book was probably received when he relinquished his librarianship of seven years to John Collins Warren. This leather bound book can be traced through all ten moves of the B.M.L. The title page shows the small, red, round imprimatur of the Boston Athenaeum and written over it in pen, "Withdrawn." This was while the library was located at 10½ Beacon Street for fifty years. When the B.M.L. has occasion to acquire an individual's selection of books, this enhances its storehouse of knowledge, wisdom, and experience. The recent gift of Mrs. John Garry in memory of her husband John '50, radiologist-in-chief at the Mt. Auburn Hospital, encompasses the period from 1940-1960, including the war years.

The library is also enriched by the presence of books that unfold momentous achievements in the history of medicine, which have changed the lives of many. Henry K. Beecher '32 has recently contributed a number of historically important and useful medical books. With William J. Morton's *The X-ray or Photography of the Invisible and its Value in Surgery*, issued in

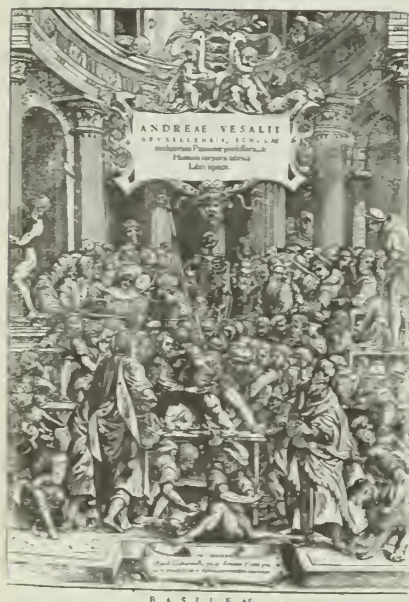


Jenner's chased silver box, a gift to Waterhouse





From Paul Dudley White's Vesalius



1896, we can determine the probable introduction of the X-ray to the United States — since it is a well known exercise in bibliography that the closer an American imprint is to the probable date of an event (in this case the X-ray), the more significant. The first of the book's three inscriptions is the most telling: "From Will with love to his mother — 19 East 18th Street, New York City. September 29th, 1896." It is customary to give books to one's parents as soon as they are published, therefore it would appear that September 29th is indeed an early date in the literature of

From Will with love to his mother
19 East 18th Street, New York City
Sept 29th 1896
Jubilee of Anaesthesia, Boston
Oct 16, 1896, this book
transferred to Thomas Gallagher
Esq with the compliments
and the highest regards
and esteem of the author.
William J. Morton

A recent gift from Henry K. Beecher



HANDLED ON TO DR. HENRY
K. BEECHER
BY
T. MORTON GALLAGHER
T. Morton Gallagher
At the Massachusetts General Hospital
30 August, 1946.

the X-ray. A second inscription underneath reads: "Jubilee of Anaesthesia, Boston, October 16, 1896, this book transferred to Thomas Gallagher Esq. with the compliments and the highest regards and esteem of the author — William J. Morton." The third inscription, inside the front cover, follows: "Handed on to Dr. Henry K. Beecher by T. Morton Gallagher at the Massachusetts General Hospital 30 August 1946."

A library that has been used professionally or collected for personal enjoyment is often the symbolic measure of a physician, and there remains an aura that survives death. For the B.M.L. to have inherited the collection of the late Paul Dudley White through the generosity of his widow, is to revel in the historically abundant and actively exercised books of a man of singular accomplishments. This gift, which covers three centuries of the literature on the heart — its anatomy, disease, means of diagnosis, and treatment, augments the research that is a constant focus of the B.M.L.

Books span the ages and the Boston Medical Library considers it a principal

function to enlarge its holdings to conform to changes in emphasis when discoveries or recent events become medical milestones. We cannot overlook present trends for they too will become concerns of future scholars researching the issues of the 1970s through the good offices of the B.M.L. The Boston Medical Library pays homage to the past and to the realization that the past is intrinsic to the future. It preserves what has been learned and safeguards against society's temporizing nature.

The library serves the mind and the incessant need to know. New events lead to a retrospective search for origins. Why did the discovery occur then? Why not before? Or did it occur and was unnoticed? We have the desire to know about others who studied before us and about the patterns of their lives. The library is not only the guardian of books and knowledge of the past, it also shares and communicates the past to present day scholars. In this context, the Boston Medical Library is our link to the past and inexorably, to one another. The nebulous traditions of medicine are and will continue to be the lifeblood of the Boston Medical Library.

THE WILLIAM O. MOSELEY, JR.

TRAVELLING FELLOWSHIPS

THE BEQUEST OF JULIA M. MOSELEY MAKES AVAILABLE FELLOWSHIP FUNDS FOR GRADUATES
OF THE HARVARD MEDICAL SCHOOL FOR POSTDOCTORAL STUDY IN EUROPE.

The Committee on Fellowships in the Medical School has voted that within the funds available the amounts awarded for stipend and travelling expenses will be determined by the specific needs of the individual. In considering candidates for the Moseley Travelling Fellowships, the Committee will give preference to those Harvard Medical School graduates who have—

1. **Already demonstrated their ability to make original contributions to knowledge.**
2. **Planned a program of study which in the Committee's opinion will contribute significantly to their development as teachers and scholars.**
3. **Clearly plan to devote themselves to careers in academic medicine and the medical sciences.**

Individuals who have already attained Faculty rank at Harvard or elsewhere will not ordinarily be considered eligible for these awards.

There is no specific due date for the receipt of applications or for the beginning date of Awards except that the Committee requests that applications not be submitted more than 12 months in advance of the requested beginning date. The Committee will meet once a year in January to review all applications on file. Applicants will be notified of the decision of the Committee by January 31. The Committee may request candidates to present themselves for personal interviews.

Application forms may be obtained from, and completed applications should be returned to:

SECRETARY, COMMITTEE ON FELLOWSHIPS IN THE MEDICAL SCHOOL
HARVARD MEDICAL SCHOOL
25 SHATTUCK STREET, BOSTON, MASSACHUSETTS 02115

